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14. ABSTRACT AMSARA's mission is to support the development of evidence based medical standards for the Department of Defense (DoD) by guiding improvement of medical and administrative databases and conducting epidemiologic and special studies analyses. Special studies presented in this annual report include analyses of accession medical disqualifications, waivers, existed prior to service and disability discharges. Descriptive statistics are reported for DoD enlisted accessions who enlisted in 2011 compared to FY 2006 through FY 2010 accessions totals. Data are collected while the recruits remain on active duty for the first fiscal year (thru fiscal year 2011 for this report). The data are then merged, analyzed and results presented as aggregated tables and figures.					
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Accession Medical Standards
Analysis & Research Activity



Attrition & Morbidity Data for 2011 Accessions

Annual Report 2012



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The views expressed are those of the authors and should not be construed to represent the positions of the Department of the Army or Department of Defense.

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Executive Summary

The Accession Medical Standards Analysis and Research Activity (AMSARA) has completed its sixteenth year of providing the Department of Defense with evidence-based evaluations of accession standards. AMSARA evaluates accession medical standards and retention programs to improve military readiness by maximizing both the accession and retention of motivated and capable recruits. This report provides findings from selected special studies and descriptive data on FY 2011 accessions.

Section 1 of this report, Special Studies and Presentations, presents brief reports on selected research conducted at AMSARA, as well as citations and abstracts for manuscripts that have been published. Special studies in this annual report include analyses of deployment length among those with deployment waivers for mental health, examinations of attrition among those with medical disqualifications for drugs, those who have a body mass index (BMI) indicating overweight/obesity, those who received an waiver under the Assessment of Recruit Motivation and Strength (ARMS) study and program, and those who were administered the Assessment of Individual Motivation (AIM) or Tailored Adaptive Personality Assessment System (TAPAS) tests.

Section 2 of this report includes the descriptive statistics AMSARA compiles and publishes annually for historical and reference value. Descriptive statistics are for applicants who enlisted in FY11 and are compared to the five year aggregate data from FY 2006-2010. Data are collected while the recruits are in their first year of active duty. By convention, the annual report is dated for the first complete year after enlistment (FY 2012). Comparisons can be made between services and on occasion between enlisted component (active, reserve, guard).

Approximately 270,000 active duty, reserve, and National Guard enlisted applicants were examined for medical fitness at Military Entrance Processing Stations (MEPS) in 2011 compared to approximately 325,000 per year average from 2006 to 2010. While the age, gender, and race, of active duty, reserves, and Guard enlisted applicants remained relatively consistent, it was observed that a greater proportion of applicants to all components in 2011 had a high school diploma and a greater proportion of applicants also had a bachelor's degree, compared to the previous five years. In 2011, applicants scoring in the lowest Armed Forces Qualification test (AFQT) percentiles for military eligibility (11-49th) decreased in active duty, reserve, and National Guard applicants, relative to the previous 5-year period.

Approximately 12% of applicants for active duty enlisted service were initially disqualified for service due to permanently disqualifying medical conditions, and another 4% received disqualifications for conditions that could be remediated. Such recruits, however, are less likely to ultimately become service members, with approximately 65% (2006-2010) of applicants with temporary disqualifications and 43% (2006-2010) of applicants with permanently disqualifying conditions subsequently gained onto active duty service, compared to 75% of fully qualified recruits who accessed. In 2011, disorders of refraction and accommodation (i.e. visual impairment) exceeded failure to meet weight and body fat standards as the most common reason for medical disqualification. This is the first year since 1995 that body weight was not the most common reason for medical disqualification. The fifth most common condition, nondependent abuse of cannabis, was approximately half as frequent in 2011 as compared to 2006-2010, when it was the second most common disqualification; this is likely a result of policy changes disallowing the granting of some drug related waivers.

Accession medical waivers are considered by each service for applicants with a disqualifying medical condition. Accordingly, the conditions most frequently considered for a waiver closely reflect the most common permanently disqualifying conditions. In total, about 24,000 applications for accession medical waivers were considered in 2011. The number of medical waiver considerations is significantly less than in 2009, as a result of two factors: reduction in waiver application rates across all services, and under-reporting of Marine Corps records. The percentage of waivers approved varies substantially by the medical condition being considered, with overall approval percentages ranging from 55% to 75% for the most commonly applied for and most highly approved waivers. Differences in approval percentages between the services may reflect differences in the applicant pools applying to the services, different distributions of conditions being considered for waiver, or different needs of each service.

Hospitalization data are provided for the period 2006-2011. In 2011, there were approximately 5,000 hospitalizations among active duty enlistees (all services) in the first year of service. The rate of first year hospitalization in 2011 was lower than the rate observed in 2006-2010, in all services except the Air Force. The top reasons for hospitalization within the first year of service for all services 2006-2011 were psychiatric conditions, pneumonia and influenza, and infections of the skin and subcutaneous tissue. During the first two years of service, psychiatric conditions remained the most frequent reason for hospital admissions. However, the frequency of hospitalizations for complications of pregnancy, fracture, and injuries increased dramatically when compared to the first year of service, with pregnancy the most common reason for hospital admission in the second year. For first-time active duty enlistees who accessed in 2006-2011, Army enlistees had the highest risk of hospitalization followed by the Marine Corps. Navy enlistees had the lowest risk of hospitalization. Women, whites, those older in age at the time of enlistment, those with lower military aptitude score (AFQT), and those with a medical disqualification or waiver were at higher risk for hospitalization.

All-cause attrition of first-time active duty recruits following 90, 180, 365, and 730 days of service is also described. At two years, the Army had the highest rate of attrition for all services considered (approximately 20%) while the Air Force had the lowest (about 16%). Being female, white, older at the time of enlistment, lower educational attainment, scoring in the lower percentile groups on the AFQT, and having a medical disqualification or waiver were all characteristics associated with significantly higher attrition at all points of assessment.

Discharges of recent enlistees for medical conditions that existed prior to service are a costly problem for all branches of the military, and are considerably more common than data indicate. Documentation of EPTS discharges is requested from each Initial Entry Training (IET) site by USMEPCOM but this reporting is not required by service regulations. The total numbers of reported discharges have varied over time, ranging from a high of approximately 8,000 in 2004 to a low of about 4,800 in 2006. Variation by training base over time has been significant.

Past AMSARA studies have shown that the great majority of EPTS discharges are for medical conditions that were not discovered or disclosed at the time of application for service, with concealment by the applicant being the most common scenario. Accordingly, the primary problem of EPTS discharges appears to be the bypassing of accession medical standards rather than the implementation of those standards. Psychiatric conditions, orthopedic conditions, and asthma continue to be the most common causes of EPTS discharges reported to USMEPCOM. Risk of EPTS discharge varies by service, with those in the Army having the lowest risk and Marines the highest. Increased risk of EPTS discharge is observed for females, recruits older than 30 years of age at accession, whites, recruits without a high school education

at accession, recruits who scored in the lower AFQT percentile score groups, and recruits with a medical disqualifications or waiver.

Disability evaluation is very infrequent among new enlistees, with less than one percent of enlistees being considered for such a discharge within the first year of service. The rate of disability evaluation has remained relatively consistent over the period 2006-2011. The most common disability evaluations during the first year of service for 2006 to 2011 accession were for diseases of the spine, skull, limbs, and extremities in all services. Other common conditions prompting disability evaluation in the first year of service included prosthetic implants and diseases of the musculoskeletal system, and schizophrenia and other psychotic disorders. Risk of evaluation for disability discharge in the first year of service was highest in the Army, and lowest in the Navy and Air Force. Characteristics associated with increased risk of disability evaluation include being female, white, aged over 30 at time of accession, and having a lower AFQT score, medical disqualification, or medical waiver.

AMSARA is committed to further development of evidence-based medical accession standards to enable the DoD to enlist the highest quality applicants in a cost-effective manner, thereby ensuring a healthy, fit, and effective force. The following programmatic recommendations are based on 15 years of research:

1. Various databases must be improved. For example, waiver data do not provide sufficient clinical detail such as severity, duration and prognosis to allow analyses of waiver decision criteria.
2. EPTS classification and reporting from the IET sites to USMEPCOM, which is still passive, should be mandated and standardized by DoD/service regulations. Analysis would be enhanced with conversion from paper to digital records.
3. AMSARA should develop expertise in cost-benefit analyses in order to better advise DoD medical standards policy makers.
4. AMSARA should continue prospective and retrospective cohort studies similar to the Assessment of Recruit Motivation and Strength (ARMS) (a study evaluating those who exceed Army body fat standards using a physical fitness test on accession) that challenge current accession standards. MEPS-based studies, including assessments of the Assessment of Individual Motivation (AIM) and the Tailored Adaptive Personality Assessment System (TAPAS), that are outcome oriented (morbidity, occupational qualification and performance, deployability, and attrition) in the area of physical and mental fitness, including motivation to serve, should be prioritized.
5. Rather than study accession medical standards in isolation, the medical standards across the continuum of a service member's life-cycle should be analyzed using evidence-based principles. This would include medical standards for deployment and retention, in addition to accession medical standards. In FY 2009 at the direction of ASD Health Affairs, Clinical Program and Policy AMSARA began to systematically evaluate each service's Disability Evaluation System. The first retention medical standards analysis and research report was published for FY 2010, with a second planned for publication by the close of FY 2012. Future plans include similar evidence of DoD and Combatant Command medical deployment standards.

Introduction

The Medical-Personnel Executive Steering Committee (formerly the Accession Medical Standards Steering Committee) was established by the Under Secretary of Defense (Personnel and Readiness) to integrate the medical and personnel communities so they could provide policy guidance and establish standards for accession requirements. These standards would stem from evidence-based information provided by analysis and research. The committee is co-chaired by the Under Deputy Assistant Secretary of Defense (Military Personnel Policy) and the Deputy Assistant Secretary of Defense (Clinical and Program Policy) and comprises representatives from the Office of the Assistant Secretary of Defense (Force Health Protection and Readiness), Office of the Assistant Secretary of Defense (Health Affairs), Office of the Assistant Secretary of Defense (Reserve Affairs), Offices of the Service Surgeons General, Offices of the Service Deputy Chiefs of Staff for Personnel, and Health and Safety Directorate (Department of Homeland Security, U.S. Coast Guard).

The Accession Medical Standards Working Group is a subordinate working group that reviews accession medical policy issues contained in DoD Instruction 6130.0., entitled "Medical Standards for Appointment, Enlistment, or Induction in the Armed Forces." This group is composed of representatives from each of the offices listed above.

AMSARA was established in 1996 within the Division of Preventive Medicine at Walter Reed Army Institute of Research to support the efforts of the Accession Medical Standards Working Group. The mission of AMSARA is to support the development of evidence-based accession standards by guiding the improvement of medical and administrative databases, conducting epidemiologic analyses, and integrating relevant operational, clinical, and economic considerations into policy recommendations. AMSARA has the following seven key objectives:

1. Validate current and proposed standards utilizing existing databases (e.g., should asthma as a child be disqualifying?);
2. Incorporate prospective research studies to challenge selected standards (e.g., are body weight standards adequate measures of fitness?);
3. Validate assessment techniques (e.g., improve current screening tools);
4. Perform quality assurance (e.g., monitor geographic variation);
5. Optimize assessment techniques (e.g., develop attrition and morbidity prediction models);
6. Track impact of policies, procedures, and waivers;
7. Recommend changes to enhance readiness, protect health, and save money.

Military staffing to support this effort includes MAJ Marlene Gubata, Chief, AMSARA, and COL David Niebuhr, Director, Preventive Medicine Branch.

AMSARA is augmented with contract support through Allied Technology Group, Inc. Staff in 2011 included Dr. David N. Cowan, Program Manager; Xiaoshu Feng, Bin Yi, Statisticians; Caitlin Blandford, Mikayla Chubb, Alexis Oetting, Elizabeth Packnett, Amanda Piccirillo, Nadia Urban, Analysts; Janice Gary, Data Manager; and Vielka Rivera, Program Administrative Assistant.

1. SPECIAL STUDIES & PUBLICATIONS

U.S. Central Command (CENTCOM) Deployment Waivers for Mental Health and Deployment Length

Background

The ongoing conflicts in Iraq and Afghanistan and rise in adverse mental health outcomes among military personnel raised concerns that soldiers were deploying to combat areas without adequate assessment of their mental health fitness [1]. In 2006, the U.S. Department of Defense developed a minimum mental health standard for deployment to clarify which mental disorders and treatments can be medically cleared for deployment without posing risks to the individual or the mission [2-3]. Under these standards, certain mental disorders are disqualifying for deployment, such as schizophrenia or bipolar disorder. Individuals with other mental disorders can still deploy but require further evaluation through the U.S. Central Command (CENTCOM) waiver process [3-4].

Prior to deployment, soldiers undergo a Periodic Health Assessment (PHA) to determine if the soldier is both medically and psychologically fit to perform his/her duties in theater [5]. During the PHA, medical and mental conditions that can put a soldier at risk for adverse outcomes during deployment are identified. The healthcare professional evaluating the individual during the PHA will decide whether the individual is fit to deploy based on this assessment. If an individual is not medically cleared, the deploying individual's command can recommend an application for a deployment mental health waiver from CENTCOM [3-5].

Mental health waiver applications are reviewed on a case-by-case basis and take into account factors such as severity, treatment requirements, and stability of the condition, as well as the availability of care in the deployment environment [3-4]. The CENTCOM Surgeon is the sole waiver authority for all mental health waiver applications and makes the final determination to approve or disapprove a mental health waiver [3-4].

Studies have not yet evaluated deployment outcomes for individuals with deployment mental health waivers. In order to understand the impact of mental health waivers on soldier deployment, we analyzed deployment data to determine if soldiers who received a mental health waiver from the CENTCOM had shorter deployments than soldiers who did not have these waivers.

Methods

Study subjects with waivers were selected from a list provided by CENTCOM of individuals with mental health waiver applications for the years 2007, 2008, 2009, 2010. Variables of interest from the CENTCOM waiver records were date of waiver and conditions waived. These individuals were matched against the Defense Manpower Data Center (DMDC) deployment and casualty files to identify demographic, deployment, and service characteristics for all study subjects.

Subjects receiving an approved CENTCOM mental health waiver prior to deploying were included in the study if they were Army accessions who gained since 1995 and returned from deployment by December 31, 2010. All waived individuals not meeting the inclusion criteria were excluded from the analysis. Only the first deployment after the date of the mental health

waiver was selected for analysis. Non-waived individuals meeting the inclusion criteria were selected on a ratio of 3:1 to waived individuals, matched on year of deployment, sex, component, and rank (enlisted or officer).

Statistical analyses included Kruskal-Wallis non-parametric test of medians, and linear regression on raw and ranked deployment lengths. The null hypothesis was that soldiers with CENTCOM mental health waivers did not have shorter deployments.

Results

CENTCOM provided 1,936 individuals with mental health waiver applications between 2007 and 2010. There were 122 Army individuals with approved mental health waivers who were matched to 366 non-waived individuals meeting the inclusion criteria. Characteristics of the study population of waived and non-waived individuals are shown in Table 1.1.

Figure 1.1 shows the distributions of deployment lengths (in days) were similar for waived and non-waived individuals. Summary statistics of deployment lengths are provided in Table 1.2. Although the mean and median deployment lengths for waived individuals were slightly longer than for non-waived, the differences were not statistically significant ($p=0.25$).

When examined with linear regression on raw and ranked data, the length of deployment was again slightly longer, but not statistically significantly longer, with $p=0.07$ and $p=0.155$, respectively.

Discussion

There was no evidence that soldiers receiving a CENTCOM mental health waiver were deployed for shorter periods of time than those who did not receive a waiver, suggesting that waived individuals are as capable of completing a tour of duty as non-waived individuals. Other studies have shown that aggressive mental health screening, tracking, and coordination of care can decrease negative soldier outcomes during deployment [6]. The mental health waiver process appears to provide another level of pre-deployment screening to ensure the medical readiness of troops, while balancing the Army's need to maintain troop levels during major combat operations. This study provides evidence that the waiver process is working as intended and that those who are waived for mental disorders are fit for deployment.

TABLE 1.1. CHARACTERISTICS OF STUDY SUBJECTS BY CENTCOM WAIVER STATUS

Characteristic and level	Waived N (%)	Non-waived N (%)
Sex		
Male	104 (85.2)	312 (85.2)
Female	18 (14.8)	54 (14.8)
Component		
Active	107 (87.7)	321 (87.7)
Reserve	15 (12.3)	45 (12.3)
Rank		
Enlisted E1-E4	52 (42.6)	156 (42.6)
Enlisted E5-E9	60 (49.2)	180 (49.2)
Officer	10 (8.2)	30 (8.2)
Total	122 (25)	366 (75)

TABLE 1.2 LENGTH OF DEPLOYMENT SUMMARY STATISTICS

Statistic	Waived (N= 122)	Non-waived (N= 366)
Mean days deployed	295.4	279.1
Median days deployed	337	312
Minimum, Maximum days deployed	3, 463	10, 479

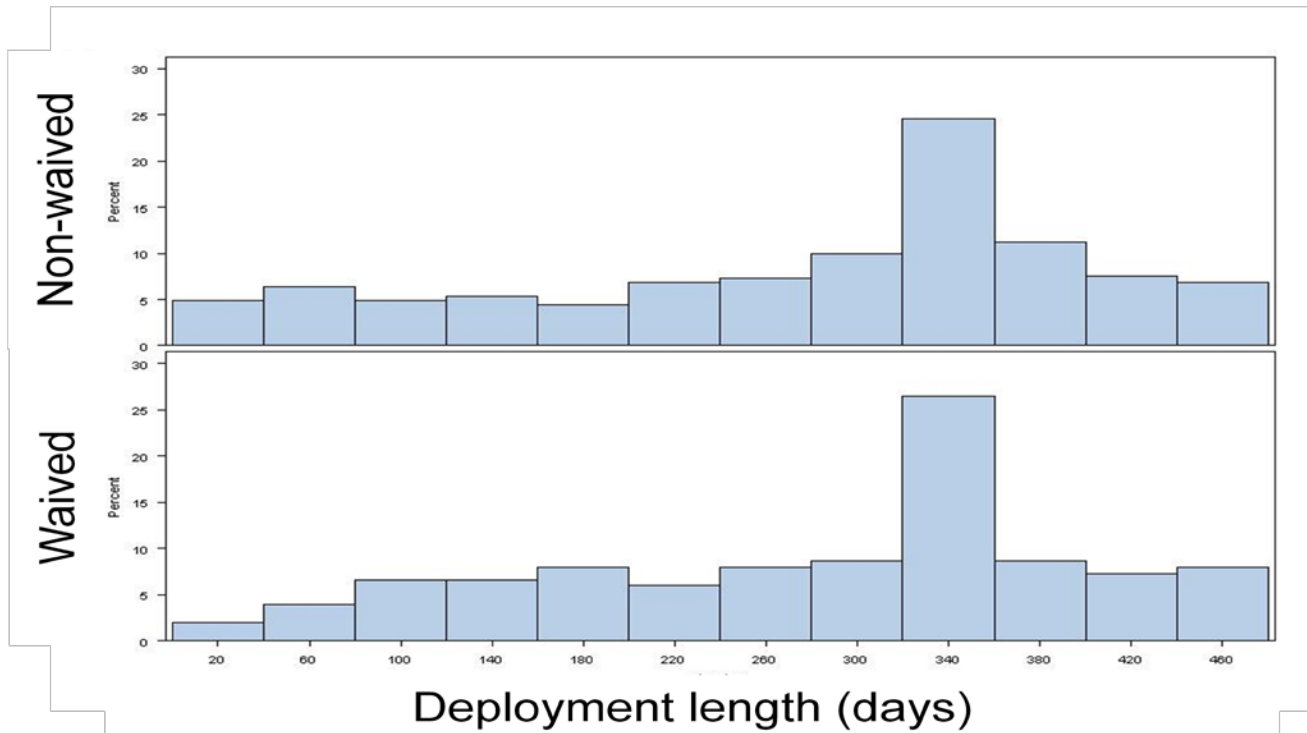


FIGURE 1.1 DISTRIBUTION OF DEPLOYMENT LENGTHS BY CENTCOM WAIVER STATUS

References

1. Hoge CW, Castro CA, Messer SC, McGurk D, Cotting DI, Koffman RL. Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *N Engl J Med*. 2004;351: 13-22.
2. H.R. 5122 (109th): John Warner National Defense Authorization Act for Fiscal Year 2007. Public Law No. 109-364, Section 738. 2006.
3. Assistant Secretary of Defense for Health Affairs: Policy Guidance for Deployment-Limiting Psychiatric Conditions and Medications. Washington, DC, Department of Defense, November 7, 2006.
4. Army Regulation 40-501. Standards of Medical Fitness. Department of the Army. December 14, 2007. Accessed May 2, 2012.
5. Modification 11 to U.S. CENTCOM Individual Protection and Individual/Unit Deployment Policy. Tampa, FL, U.S. Army Central Command.
6. Warner CH, Appenzeller GN, Parker JR, Warner CM, Hoge CW. Effectiveness of mental health screening and coordination of in-theater care prior to deployment to Iraq: a cohort study. *Am J Psychiatry*. 2011;168: 378-385.

Accession and Attrition Profiles among Active Duty Accessions with Drug Disqualifications

Background

Individuals with a medical disqualification (DQ) access into active duty service at a lower rate than fully qualified applicants [1]. As a group, these individuals are also at increased risk of attrition compared to fully qualified individuals at all points during the first term of service [2]. While weight and drug use conditions are the most common DQs, the frequency of specific conditions and types of attrition are not known. The purpose of this study is to describe the distribution of types of attrition among applicants with drug disqualifications who accessed into active duty between fiscal year 2009 and 2011.

Methods

All subjects were non prior service, active duty applicants for service in the Army, Navy, Marine Corps, and Air Force between fiscal year 2005 and 2009. Accession and attrition were captured through fiscal year 2011.

Data were provided by U.S. Military Entrance Processing Command (USMEPCOM) and the Defense Manpower Data Center (DMDC) through fiscal year 2011. These data contained demographic information, disqualification status, accession and discharge variables and social security numbers. For the purposes of this study, all applicants who received a medical examination between fiscal year 2005 and 2009 were included.

International Classification Diseases 9th revision (ICD-9) codes from the Military Entrance Processing (MEPS) records were used to identify marijuana (305.2) and other drug disqualifications (303, 304, 305). Individuals with both marijuana and other drug ICD-9 codes were included in other drugs. Non-drug disqualifications were defined based on all other ICD-9 codes or presence of an objective medical finding. Individuals with ICD-9 code 305.1 indicating tobacco use disorder were included in non-drug disqualifications.

Interservice Separation Codes (ISC) were used to identify attrition events. Attrition was categorized as medical (ISC 1010, 1016), behavioral (ISC 1060-1085), performance (ISC 1086-1088), failure to meet weight/body fat standards (ISC 1017), and other (ISC 1002, 1022, 1090-1099, 1101-1105).

Results

Total accession and attrition for individuals who applied for service in the period from 2005 to 2009 by medical qualification status is shown in Table 1.3. The percentage of fully qualified applicants who accessed is 77.1%. Among applicants with a medical disqualification, those with a non-drug disqualification had the highest accession rate (55.2%) followed by applicants with marijuana disqualifications (30.2%), while those with a drug disqualification other than marijuana had the lowest rate of accession (23.0%).

During the first six months of service, the percentage of attrition was highest among those with non-drug disqualifications (13.4%) and similar in those with marijuana disqualifications (10.7%), other drug disqualifications (8.3%) and fully qualified service members (9.1%). At one year of service, the percent attrition was highest among non-drug disqualifications (17.1%) followed by marijuana disqualifications (15.9%), other drug disqualifications (13.3%) and those who were fully qualified (12.5%).

Figure 1.2 shows the distribution of types of attrition at six months and one year by medical qualification status. The percentage of attrition at six months due to medical reasons was highest among non-drug disqualifications (39%) followed by fully qualified individuals (30%), other drug disqualifications (27%) and marijuana disqualifications (22%). The percent of behavior-related attrition was highest among accessions with marijuana disqualifications (50%) followed by the fully qualified (33%), other drug disqualifications (32%) and lowest among accessions with non-drug disqualifications (22%). The attrition rate attributable to unsatisfactory performance was highest among non-drug disqualifications (19%) followed by fully qualified individuals and other drug disqualifications (17%) and lowest among marijuana disqualifications (13%). The percent attrition due to failing to meet weight standards was lowest among fully qualified accessions and non-drug disqualifications (4% and 5%, respectively) and highest among other drug disqualifications (13%).

At one year, the distribution of types of attrition was similar to the six month attrition profile by qualification status. However, at one year, attrition attributable to medical reasons decreased. In contrast, behavior-related early separation increased with 'fraudulent entry' and 'drugs' ranking among the top three reasons for early separation within this category of attrition across all medical statuses (data not shown).

Discussion

This study found behavior-related attrition highest among those with a marijuana disqualification at six months and one year of service. Furthermore, at one year, the behavior-related attrition rate increased overall, with the largest rise occurring among individuals with marijuana disqualifications and for whom the majority of early separation is behavior-related. Because 'drugs' are ranked among the top reasons for this type of attrition, it appears a number of these service members continue to exhibit drug-related problems upon accession into service. However, over two-thirds of marijuana disqualifications do not enter service indicating the current screening process is effective at barring individuals at high risk of this type of attrition. In general, the percentage of attrition attributable to medical reasons decreased at one year compared to six months. Most attrition occurs during the first 6 months of service [3] during which time the individual completes basic combat training. At this time, a medically disqualifying condition may likely be uncovered and lead to early separation. However, the attrition rate due to medical reasons was highest among individuals with non drug disqualifications reported at their physical examination indicating that many of these individuals may be medically unqualified for service despite their accession into the military.

Current MEPS screening appears adequate at preventing many recruits at high risk of behavior-related attrition from entering service. However, future studies are needed to improve the screening process for preexisting medical conditions among applicants.

TABLE 1.3 ACCESSION AND ATTRITION AMONG NON-PRIOR SERVICE ACTIVE DUTY ENLISTEES WITH A DISQUALIFICATION FOR DRUGS BETWEEN 2005 AND 2009

	Total Applications	Total Accessions	% Accessed	Total Attrition	% Attrition
6 month Attrition					
Marijuana DQ	23,114	6,981	30.2	746	10.7
Other Drug DQ*	6,367	1,463	23.0	121	8.3
Non-drug DQ	204,927	113,217	55.2	15,209	13.4
Fully Qualified	878,998	677,988	77.1	61,973	9.1
1 year Attrition					
Marijuana DQ	23,114	6,981	30.2	1,107	15.9
Other Drug DQ*	6,367	1,463	23.0	194	13.3
Non-drug DQ	204,927	113,217	55.2	19,310	17.1
Fully Qualified	878,998	677,988	77.1	84,632	12.5

*Alcohol DQs included with Other Drug DQs

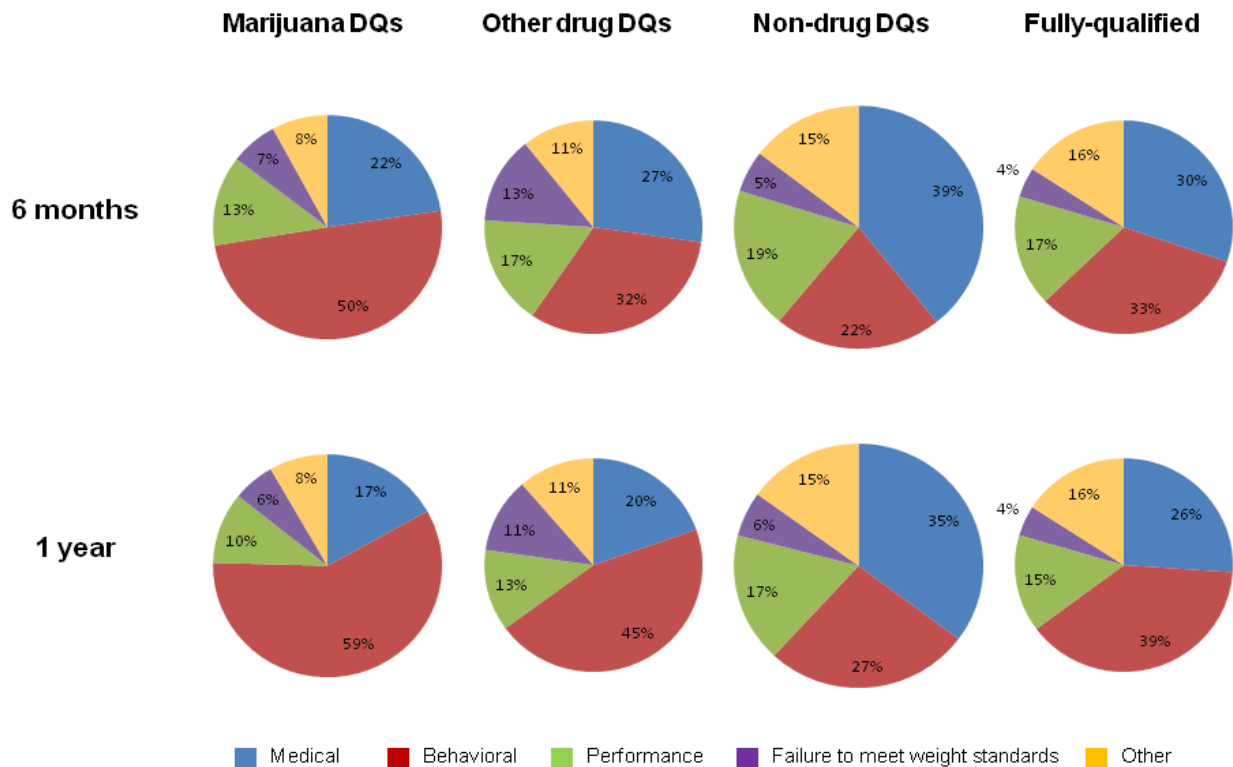


FIGURE 1.2 ATTRITION CATEGORIES AMONG FY 2001-2011 ACCESSION BY MEDICAL QUALIFICATION STATUS

Attrition among 2001-2011 Army Accessions during the First Three Years of Active Duty Service

Background

Increases in the prevalence of overweight and obesity in the US population have corresponded to increases in overweight and obese in the recruit populations for the military and other public service jobs [1,2]. Through FY 2010, the most common reason for military applicant medical disqualification is failure to meet body composition standards [3,4]. Given the high prevalence of overweight and obesity among military applicants and the U.S. population as a whole, it is important to understand the impacts of body composition on premature separation and ability to serve.

Recent research has shown that higher body mass index (BMI) is associated with decreased fitness [5,6] and increased risk of pain, injury, disability, and premature retirement or discharge [7-12] in military personnel. Studies of overweight and underweight as risk factors for injury or premature separation have reported inconsistent findings. Increases in risk of premature separation, injury or illness have been shown to be associated with both extremes of BMI in the military, though not all associations are significant [5,7-9,11-17]. In this study, AMSARA assessed the relationship between BMI measured at accession and premature separation (attrition) in the first three years of service.

Methods

The study population included all first time Army Active Duty accessions from 2001-2011. Data on height and weight were extracted from medical examination records at application for service provided by U.S.MEPCOM. Accession and separation (attrition) dates were provided by the Defense Manpower Data Center.

BMI was calculated from accession height and weight and categorized according to National Institutes of Health guidelines: underweight ($<18.5 \text{ kg/m}^2$), normal weight (18.5 kg/m^2 - 24.9 kg/m^2), overweight (25 kg/m^2 - 29.9 kg/m^2), and obese ($\geq 30 \text{ kg/m}^2$) [18]. Total accessions and attrition rate were calculated by BMI category for the study period. Unadjusted relative risk of attrition, attributable risk of attrition, and number needed to screen to prevent one attrition were calculated comparing each BMI category to normal weight subjects for the first three years of service.

Results

Among first time Army Active Duty enlistees from 2001-2011, there were 514,257 men and 106,053 women. During this time period, over 60% of female and almost 50% of male new recruits were normal weight. Among men, 35.2% were overweight, 14.6% obese, and 1.7% underweight. Among women, 32.8% were overweight, 2.3% obese, and 3.1% underweight. There was a general increase in obesity over the study period, particularly among men, with the highest proportion of obese enlistees occurring in 2009 among men (18.3%) and in 2006 among women (4.3%).

In the first three years of service, the attrition rate among women was almost twice the rate among men, at all levels of BMI measured at accession. Among both males and females, enlistees with an underweight BMI had the highest attrition rate (29.2%, 47.5%, respectively), followed by those that were obese (males 27.8%, females 45.9%). The relative risk of attrition among men, comparing underweight, overweight, and obese enlistees to normal weight, was

statistically significant for all comparisons, but reflected a very small difference. Underweight male recruits had 14.3% increased risk of attrition; obese recruits had 9% increased risk of attrition; and overweight had about 3% decreased risk of attrition. Among women, the only statistically significant increased relative risk was for underweight recruits, who had about 7% increased risk of attrition.

An attributable risk and number needed to screen analysis was also performed. Among males, 3.6% of attrition in the first three years of service can be attributed to underweight BMI, and 2.2% can be attributed to obese BMI. Among females, 3.2% of attrition in the first three years of service can be attributed to underweight BMI, and 1.6% to obese BMI. Among men, 46 recruits would need to be screened out to identify one at increased risk of attrition due to obese BMI, and 27 recruits would need to be screened out to identify one at increased risk of attrition due to underweight BMI. Among women, 62 recruits would need to be screened out to identify one at increased risk of attrition due to obese BMI, and 31 recruits would need to be screened out to identify one at increased risk of attrition due to underweight BMI.

Discussion

Over the decade from 2001-2011, nearly 50% of men and about one third of women who entered into Active Duty U.S. Army service were overweight or obese. Among both men and women, there was very little evidence of increased risk of attrition in the first three years of service in overweight or obese individuals compared to those who were normal weight at accession. Small but statistically increased risk of attrition was observed among both men and women who were underweight at accession.

Despite the large proportion of accessions who are overweight or obese at entrance into Active Duty service and the generally increasing trend of overweight and obesity among new recruits, elevated accession BMI does not appear to be an important predictor of attrition over the first three years of service.

TABLE 1.4 ATTRITION RATE, RELATIVE AND ATTRIBUTABLE RISK, AND NUMBER NEEDED TO SCREEN AMONG FIRST TIME ENLISTED ACTIVE DUTY ARMY IN THE FIRST THREE YEARS OF SERVICE BY BMI

	Male			
	Under	Over	Obese	Normal
Total Accessions (N)	6,228	111,830	45,275	165,045
Attrition Rate	0.29	0.25	0.28	0.26
Number Needed to Screen	27	-114	46	-
Relative Risk (95% CI)	1.14 (1.10,1.19)	0.97 (0.95,0.98)	1.09 (1.07,1.10)	-
Attributable Risk	0.036	-0.009	0.022	-
	Female			
	Under	Over	Obese	Normal
Total Accessions (N)	2,360	22,031	1,760	44,197
Attrition Rate	0.48	0.45	0.46	0.44
Number Needed to Screen	31	227	62	-
Relative Risk (95% CI)	1.07 (1.03,1.12)	1.01 (0.99, 1.03)	1.04 (0.98, 1.09)	-
Attributable Risk	0.032	0.004	0.016	-

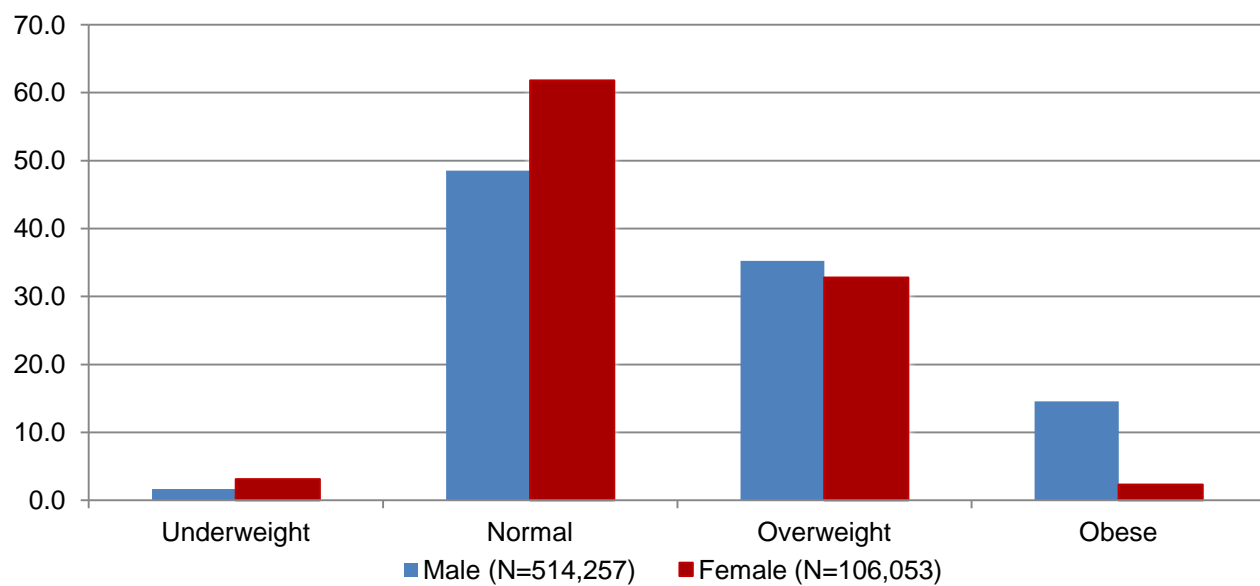


FIGURE 1.3 BMI DISTRIBUTION AMONG FIRST TIME ENLISTED ACTIVE DUTY: ARMY, 2001 TO 2011

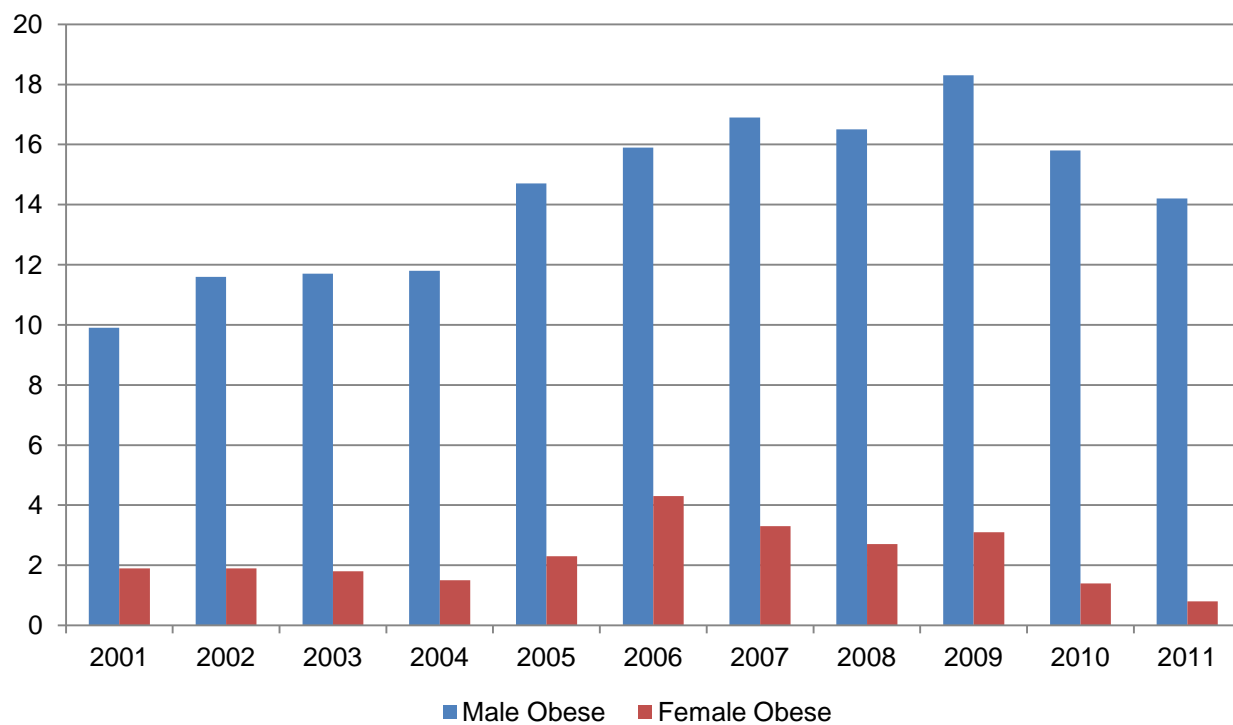


FIGURE 1.4 ANNUAL PERCENTAGE OF OBESE FIRST TIME ENLISTED ACTIVE DUTY: ARMY, 2001 TO 2011

References

1. Frank WD, Ramey SL, Shelle MC. Relationship between cardiovascular disease morbidity, risk factors, and stress in a law enforcement cohort. *J Occup Environ Med.* 2002;44:1182-1189.
2. Hsu LL, Nevin RL, Tobler SK, Rubertone MV. Trends in overweight and obesity among 18-year-old applicants to the United States military, 1993-2006. *J Adolesc Health.* 2007;41:610-612.
3. Christeson W, Taggart AD, Messner-Zidell. Too fat to fight: Retired military leaders want junk food out of America's schools. *Mission: Readiness.* Washington, DC. April 2010.
4. Niebuhr DW, Cavicchia MA, Bedno SA, et al. Accession Medical Standards Analysis and Research Activity, Annual Report 2009. Walter Reed Army Institute of Research. Silver Spring, MD. 2009. Available from: <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA506472> (accessed 30 May 2012).
5. Knapik JJ, Canham-Chervak M, Hauret K, Hoeddebecke E, Laurin MJ, Cuthie J. Discharges during US Army basic training: Injury rates and risk factors. *Mil Med.* 2001;166:641-647.
6. Friedl KE, Vogel JA, Bovee MW, Jones BH. Assessment of body weight standards in male and female army recruits. Exercise Physiology Division. Natick, MA: US Army Research Institute of Environmental Medicine, 1989. (Technical report no. T15-90.)
7. Knapik JJ, Darakjy S, Hauret KG et al. Increasing the physical fitness of low-fit recruits before basic combat training: An evaluation of fitness, injuries, and training outcomes. *Mil Med.* 2006;171:45-54.
8. Billings CE. Epidemiology of injuries and illnesses during the United States Air Force Academy 2002 Basic Cadet Training program: documenting the need for prevention. *Mil Med.* 2004;169:664-670.
9. Poston WS, Haddock K, Talcott GW, Klesges RC, Lando HA, Peterson A. Are Overweight and obese airmen at greater risk of discharge from the United States Air Force? *Mil Med.* 2002;167:585-588.
10. Reis JP, Trone DW, Macera CA, Rauh MJ. Factors associated with discharge during Marine Corps basic training. *Mil Med.* 2007;172:936-941.
11. Knapik JJ, Jones SB, Darakjy S et al. Injuries and injury risk factors among members of the United States Army Band. *Am J Ind Med.* 2007;50:951-961.
12. Kyrolaninen H, Hakkinen K, Kautiainen H, Santtila M, Pihlainen K, Hakkinen A. Physical fitness, BMI and sickness absence in male military personnel. *Occup Med (Lond).* 2008;58:251-256.
13. Neovius M, Kark M, Rasmussen F. Association between obesity status in young adulthood and disability pension. *Int J Obes.* 2008;32:1319-1326.

14. Trone DW, Villasenor A, Macera CA. Negative first-term outcomes associated with lower extremity injury during recruit training among female Marine Corps graduates. *Mil Med.* 2007;172:83-89.
15. Lusky A, Barell V, Lubin F, Kaplan G, Layani V, Shohat Z, Lev B, Wiener M. Relationship between morbidity and extreme values of body mass index in adolescents. *Int J Epidemiol.* 1996;25(4):829-834.
16. Talcott GW, Haddock CK, Klesges RC, Lando H, Fielder E. Prevalence and predictors of discharge in United States Air Force Base Military Training. *Mil Med.* 1999;164:269-274.
17. Packnett ER, Niebuhr DW, Bedno SA, Cowan DN. Body mass index, medical qualification status and discharge during the first year of US Army service. *Am J Clin Nutr.* 2011; 93:608-614.
18. National Institutes of Health/National Heart, Lung, and Blood Institute. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults. September 1998. Available from: http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf (accessed 30 May 2012).

Attrition due to Failure to Meet Weight and Body Fat Requirements in the First Tour of Duty among ARMS Study and Program Participants

Background

The Assessment of Recruit Motivation and Strength (ARMS) study was developed to test the validity of a physical fitness screen of Army applicants at six MEPS locations from February 2005 to September 2006. The ARMS testing was expanded to a Program at all 65 MEPS in Oct 2006 for OBF applicants only and was terminated in Sep 2009. The primary objective of the ARMS study was to assess the ability of the ARMS test to predict morbidity and attrition during initial military training and the first tour of duty. This analysis examines the reasons for attrition among ARMS study and program participants.

Methods

All Army applicants who processed at the six designated MEPS were required to take the ARMS test including those who met weight standards and were weight qualified (WQ) and those who exceeded Army accession standards for weight for height and body fat (OBF). The OBF applicants (maximum body fat of 30% for males and 36% for females) were eligible for an automatic waiver onto active duty if they successfully completed the test.

The ARMS test consisted of a 5-minute step test and a 1-minute push-up test to identify the fit and motivated. Information describing types of attrition was received for both ARMS study and program from two sources, the Center for Accession Research using Army specific Separation Program Designator (SPD) codes, and Defense Manpower Data Center (DMDC) using tri-service Interservice Separation Codes (ISC). SPD and ISC codes assigned at time of discharge were compared in OBF study and program subjects.

Results

In total, 11,578 ARMS study participants accessed from Feb 2005 to Sep 2006. Attrition at three years among male ARMS study participants was 27.5% in OBF vs. 22.7% in WQ and among women 43.8% in OBF vs. 43.0% in WQ.

In total, 7,577 ARMS Program participants accessed from Feb 2006 to Aug 2010. Attrition at three years among ARMS Program accessions was 25.5% for men and 36.0% for women through fiscal year 2011.

DMDC data shows that among males 33 (3.9%) ARMS study OBFs and 132 (2.4%) of ARMS program participants attrited due to the ISC 'Failure to Meet Weight/Body Fat Standards', but only 12 OBFs and 21 ARMS program participants were identified as a 'Weight Control Failure' by SPD (Table).

DMDC data shows that among females 15 (4.7%) ARMS study OBFs and 73 (3.4%) of ARMS program participants attrited due to the ISC 'Failure to Meet Weight/Body Fat Standards', but no OBFs and 11 ARMS program participants were identified as a 'Weight Control Failure' by SPD.

Discussion

Substantial discordance was observed in the SPD and ISC codes assigned to OBF ARMS study and program participants at time of discharge. Discharges due to failure to meet weight requirements were rare in both OBF ARMS study participants and participants in the ARMS program, occurring in 2-5% of OBF individuals. Previous research has demonstrated that

attrition at 15 months is higher among ARMS study participants and that enrollment in the Army Weight Control Program is significantly more likely among OBF ARMS study participants [1]. However, this study also found that discharges due to failure to meet weight requirements were rare in OBF ARMS study participants [1], a finding that is duplicated here. Further research is necessary to determine whether misclassification of the reason for separation has occurred in these participants and to assess the specific causes of attrition in OBF Soldiers.

TABLE 1.5 SPD CODES ASSIGNED TO ARMS STUDY AND PROGRAM SUBJECTS WITH ISC (WITHIN 3 YEARS OF SERVICE OR END OF FY11), INDICATING 'FAILURE TO MEET WEIGHT/BODY FAT STANDARDS'

SPD Description	ISC Indicating Failure to Meet Weight/Body Fat Standards			
	Study OBF		Program OBF	
	Male (N=840)	Female (N=322)	Male (N=5442)	Female (N=2135)
Condition, Not a Disability	20	15	77	55
Weight Control Failure	12	0	21	11
Completion of Required Active Service	1	0	0	0
Missing	0	0	34	7
Total	33	15	132	73

TABLE 1.6 ISC CODE ASSIGNED TO ARMS STUDY AND PROGRAM SUBJECTS WITH SPD CODE (WITHIN 3 YEARS OF SERVICE OR END OF FY11), INDICATING 'FAILED MEDICAL/PHYSICAL/PROCUREMENT STANDARDS'

ISC Description	SPD Indicating Failed Medical/Physical/Procurement Standards			
	Study OBF		Program OBF	
	Male (N=840)	Female (N=322)	Male (N=5442)	Female (N=2135)
Unqualified for Active Duty-Other	34	16	194	110
Missing	1	1	5	3
Total	35	17	199	113

References

1. Bedno S.A., Lang C.E., Daniel W.E., Wiesen A.R., Datu B., Niebuhr D.W. Association of weight at enlistment with enrollment in the Army Weight Control Program and subsequent attrition in the Assessment of Recruit Motivation and Strength Study. Mil Med 2010;175(3):188-193.

Retrospective Analysis of Non-Cognitive Personality Scales: Assessment of Individual Motivation (AIM) and Tailored Adaptive Personality Assessment System (TAPAS)

Background

Psychiatric disorders are among the top ten causes of discharges for medical conditions that existed prior to service (EPTS) and disability discharges among new recruits every year, representing a significant loss to the military work force [1]. Current screening for psychological fitness in military applicants consists of three parts: educational achievement, math and verbal cognitive testing, and a medical examination [2]. This process relies on applicants' self-report of symptoms and diagnoses that may be disqualifying for military service. Nondisclosure remains a problem, resulting in mental disorders presenting during training and the first tour of duty [3].

Personality assessment tools have been studied as predictors of performance in civilian and military work settings. The Assessment of Individual Motivation (AIM) and the Tailored Adaptive Personality Assessment System (TAPAS) are two non-cognitive personality tests developed by the Army Research Institute for the Behavioral and Social Sciences (ARI) to screen applicants for probability of attrition and overall success in the military, without relying on cognitive abilities or education level. Implemented in 2000 under the GED Plus Program, AIM was part of the Tier Two Attrition Screen to offer enlistment incentives for military applicants without a high school diploma. Building on the work with AIM, ARI later developed TAPAS as a performance screen for Tier One applicants (those with at least a high school diploma). TAPAS has been administered to all Army and Air Force applicants since Oct 2009, and is automated on the Armed Services Vocational Aptitude Battery (ASVAB) testing platform. Both tests measure personality traits based on the Big Five factors of personality and generate scores for each measured trait.

Because AIM and TAPAS were developed to assess personality traits associated with motivation and job performance, we proposed that they may have an alternate use as a predictor of mental health fitness for military duty. This study's objective was to test whether AIM and TAPAS could serve as potential accession screening tools for mental health fitness.

Methods

AIM and TAPAS are both self-report measures that ask users to choose statements that most closely resemble their personality or interests. AIM measured behavioral trends in six areas (work orientation, adjustment, agreeableness, dependability, leadership, and physical conditioning). The six scores were then used to generate a composite score optimized by ARI to predict attrition [4].

Applicants taking TAPAS were tested in 15 personality dimensions (achievement, adjustment, dominance, non-delinquency, even-temperedness, intellectual efficiency, optimism, physical conditioning, generosity, cooperation, self-control, sociability, order, tolerance, and attention seeking). TAPAS generates a score for all 15 personality dimensions as well as two composite scores, called "can do" and "will do", for each applicant [5].

We received AIM and TAPAS scores for U.S. Army accessions from ARI and matched them to AMSARA's accession, loss, and ambulatory data. Mental health disorders were defined according to the International Classification of Diseases, Ninth Revision (ICD-9) as having an

ICD-9 code between 290 and 319. AIM and TAPAS scores were divided into quintiles and analyzed to aid in determining potential cut points for screening.

We used logistic regression methods to determine associations between AIM and TAPAS scores with attrition and mental disorder diagnoses for Tier One and Tier Two U.S. Army active duty accessions with no prior military service. The AIM analysis focused on attrition and mental health outcomes in the first year of service, while the TAPAS analysis focused on 6 month outcomes. A number needed to screen analysis was also completed to determine possible cut points for screening.

Results

AIM

In total, 47,979 Tier Two non-high school diploma U.S. Army active duty enlistees took AIM and accessed between 2005 and 2009, the majority of whom were white men under age 25. AIM composite score predicted attrition in the first year of service, with lower scorers having higher attrition. When adjusted for sex, age, race/ethnicity, BMI, AFQT, medical waivers, and the presence of medical conditions at enlistment, AIM scorers in the lowest quintile had a 56% higher odds of first year attrition when compared to those scoring in the highest quintile (OR, 1.56; 95% CI, 1.44-1.68) .

AIM composite score predicted mental disorder diagnoses in the first year of service, with lower scorers having higher odds of developing mental disorders. An adjusted model showed AIM scorers in the lowest quintile had a 44% greater odds of mental disorder diagnoses compared to those scoring in the highest quintile (OR, 1.44; 95% CI, 1.35-1.53).

A number needed to screen analysis revealed that at an AIM score cut-point of 41 (20th percentile) approximately 15 subjects are tested to identify 1 applicant at increased risk of attrition and approximately 14 subjects are tested to identify 1 applicant at increased risk of future mental disorder diagnosis.

TAPAS

In total, 15,082 Tier One (at least high diploma)U.S. Army active duty enlistees took TAPAS and accessed in fiscal year 2010, the majority of whom were white men under age 25. The TAPAS physical conditioning score was the most predictive of attrition and morbidity in the first six months of service. TAPAS physical conditioning dimension score predicted attrition in the first six months of service, with lower scorers having higher attrition. When adjusted for sex, age, race, BMI, AFQT, and medical disqualifications, TAPAS scorers in the lowest quintile had twice the odds of first year attrition when compared to those scoring in the highest quintile (OR, 2.08; 95% CI, 1.73-2.51).

TAPAS physical conditioning dimension score was also associated with mental disorder diagnoses within the first 6 months of service. An adjusted model showed that TAPAS scorers in the lowest quintile had 41% higher odds of receiving diagnoses with a mental disorder in the first 6 months of service when compared to highest scorers (OR, 1.41; 95% CI, 1.20-1.66).

A number needed to screen analysis showed that using the lowest quintile (bottom 20%) as a cut point, 24 applicants tested in order to identify one recruit attrition and 43 applicants would need to be tested with TAPAS in order to identify one recruit with a mental disorder diagnosis..

Discussion

Low scorers on AIM or TAPAS were at increased risk for early discharge and mental disorder diagnoses within the first year of service. This study demonstrated the use of non-cognitive personality tests to predict mental disorder diagnoses and early attrition in the first six months and first year of military service. Non-cognitive tests such as AIM and TAPAS, which were designed to assess motivational aspects of military career performance, may have important alternate uses as screening tools for mental health fitness to serve in the military, complementing existing cognitive screens and potentially reducing the burden of undiagnosed or concealed pre-existing mental health disorders in new recruits.

Proposed future work on AIM/TAPAS includes a FY2012-13 program evaluation using AIM/TAPAS to identify a U.S. Army applicant population at risk of increased 1-year psychiatric morbidity and attrition for mental health consultation to detect potentially disqualifying medical conditions. AIM/TAPAS scores would not be used to medically disqualify applicants and no changes to accession medical standards are proposed. Because AIM/TAPAS are currently operational at all 65 MEPS, it is proposed that AIM/TAPAS scores be provided to MEPS medical officers for consideration when determining whether an applicant requires mental health consultation, including a structured clinical interview, to identify individuals with undisclosed or concealed disqualifying mental health disorders.

References

1. Accession Medical Standards Analysis and Research Activity (AMSARA), Annual Report. (2010). Online. Available from: <http://www.amsara.amedd.army.mil/> (accessed June 14, 2012).
2. Cardona RA, Ritchie EC. U.S. military enlisted accession mental health screening: history and current practice *Mil Med.* 1007; 172: 31-35.
3. Cardona RA, Ritchie EC. Psychological screening of recruits prior to accession in the U.S. military. *A Textbook Recruit Medicine*. Edited by Borden Institute, Office of The Surgeon General. Washington, DC. 2006. Available from: http://www.bordeninstitute.army.mil/published_volumes/recruit_medicine/RM-ch16.pdf. (accessed June 14, 2012).
4. Knapp DJ, Heggstad ED, Young MC: Understanding and Improving the Assessment of Individual Motivation (AIM) in the Army's GED Plus Program. Study Note. U.S. Army Research Institute for the Behavioral and Social Sciences. (Technical Report A420227) 2004. Available from: <http://www.dtic.mil/dtic/tr/fulltext/u2/a420227.pdf>. (accessed June 14, 2012).
5. Knapp, D. J., & Heffner, T. S. Tier One Performance Screen Initial Operational Test and Evaluation: Early Results. U.S. Army Research Institute, For the Behavioral and Social Sciences. (Technical Report no. 1283). 2011 Available from: <http://www.dtic.mil/docs/citations/ADA544437>. (accessed June 14, 2012).

Effect of Pre-Accession Physical Fitness on Training Injuries among US Army Recruits

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A Noncognitive Temperament Test to Predict Risk of Mental Disorders and Attrition in U.S. Army Recruits

***Military Medicine*, 2012;177(4):374-379**

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Background: U.S. military accession mental health screening includes cognitive testing and questions regarding the applicants' past mental health history. This process relies on applicants' knowledge of and willingness to disclose symptoms and conditions. Applicants have a strong incentive to appear qualified, which has resulted in a long history of frequent mental health conditions presenting during recruit training.

Objective: To assess the predictive value of a preenlistment noncognitive temperament test score for risk of mental disorders and attrition in the first year of service. **Methods:** A retrospective cohort study was conducted on non-high school diploma U.S. Army active duty recruits who took the Assessment of Individual Motivation (AIM). Multivariate logistic regression models were used to determine associations between AIM score quintiles, mental disorders, and attrition.

Results: AIM scorers in the lowest quintile were at increased risk for a mental disorder (OR, 1.44; 95% CI, 1.35–1.53) and of discharge (OR, 1.65; 95% CI, 1.44–1.68) compared to AIM scorers in the highest quintile, with significant linear trends for decreased risk with increasing AIM score.

Conclusions: AIM offers the potential to improve screening.

Body Mass Index, Medical Qualification Status, and Discharge during the First Year of U.S. Army Service

American Journal of Clinical Nutrition, 2011;93:608-614.

Authors: Elizabeth R. Packnett, MPH; David W. Niebuhr, MD, MPH, MS; Sheryl A. Bedno, MD, MPH, MS; David N. Cowan, PhD, MPH

Background: The high prevalence of overweight and obesity in military recruits and in the US population as a whole necessitates understanding the health effects of body composition and associated morbidity.

Objective: In this study, we examined the effect of body mass index (BMI; in kg/m²) and medical status on premature discharge from the US Army in a large cohort of first-time–enlisted, active-duty soldiers.

Design: We determined the odds ratios (ORs) associated with BMI and medical status at enlistment by using a retrospective cohort of first-time, active-duty army recruits. Results: ORs for BMI, calculated by using 24–24.9 as a reference, exhibited a U-shaped pattern. Soldiers with a BMI <24 had the highest ORs for all-cause (OR: 1.47; 95% CI: 1.32, 1.64) and medical (OR: 1.68; 95% CI: 1.46, 1.93) discharges. A BMI ≥25 was 1.35 times as likely (95% CI: 1.02, 1.80) to result in an all-cause discharge and 1.45 times as likely (95% CI: 1.01, 2.08) to result in a medical discharge. ORs for soldiers who required a medical reexamination did not vary when all-cause discharge (OR: 1.10; 95% CI: 1.06, 1.14) and medical discharge (OR: 1.10; 95% CI: 1.05, 1.15) were compared. The medical discharge OR for soldiers who required a medical waiver to enter the army (OR: 1.56; 95% CI: 1.48, 1.64) was higher than the OR for all-cause discharge (OR: 1.27; 95% CI: 1.22, 1.32).

Conclusion: Enlistment BMI and medical qualification status play an important role in early discharge and may provide a valuable tool in the development of fitness, nutrition, and injury-prevention interventions in higher-risk groups.

Step Test Performance and Risk of Stress Fractures among Female Army Trainees

American Journal Preventive Medicine, 2012;42(6):620-624

Authors: David N. Cowan, PhD, MPH; Sheryl A. Bedno, MD, MPH, MS; Nadia Urban, MHS; David W. Niebuhr, MD, MPH, MS

Background: Stress fractures and other musculoskeletal injuries are major sources of morbidity among female military trainees. Several risk factors have been postulated, particularly pre-existing fitness, usually assessed with post-entry run time for ≥ 1.0 miles.

Purpose: Physical fitness is not formally evaluated prior to Army entry. If a valid and simple test that identified women at increased risk of stress fracture were available and could be applied prior to entry, it would facilitate cost-benefit studies of deferral or interventions. These analyses were undertaken to determine if a 5-minute step test conducted before entry identified women at increased risk.

Methods: A prospective study was conducted of weight-qualified women entering the Army 2005-2006, with analyses completed in 2011. At the pre-entry examination information was collected on age, BMI, smoking, race, and activity level. Everyone took the step test. All outpatient medical encounters were captured, and stress fractures and other musculoskeletal injuries identified. Women with stress fractures and those with other musculoskeletal injuries were evaluated separately.

Results: 1568 women were included in the study; 109 developed stress fractures and 803 other musculoskeletal injury. Women who failed the step test had 76% higher stress fracture incidence and 35% higher incidence of other musculoskeletal injuries. There was effect modification between age and test failure for stress fracture.

Conclusions: A step test that can be administered before military entry identifies women with increased incidence of stress fracture and other musculoskeletal injury. This test could be used pre-entry to defer or target high-risk recruits for tailored fitness training before or after military entrance.

2. DESCRIPTIVE STATISTICS FOR APPLICANTS AND ACCESSIONS FOR ENLISTED SERVICE

The characteristics of the source populations applying for enlisted service in the active duty, Reserve, and National Guard components of the military are described from fiscal year 2006 to fiscal year 2011. The characteristics of the accessed populations are compared. For active duty accessions only, subsequent attritions are also shown. Individuals identified as having prior service in any US military component are excluded. An enlistee *applicant* is the individual who presents to a Military Entrance Processing Station (MEPS) for evaluation for acceptance into military service. An enlistee *accession* is the individual who has signed his or her oath of enlistment.

Except where otherwise noted, the following conventions apply:

- All references to year refer to fiscal year (FY).
- The “Accessions” shown in the following tables are from among the “Applicants” shown in the relevant preceding column. For example, columns showing fiscal year 2011 accessions are summarizing accessions only among individuals who applied for service in fiscal year 2011. Notation is made when complete follow-up is not available.
- Only data through fiscal year 2011 are included. Therefore, numbers and percentages gained (i.e. accessions) among applicants in 2011 refer only to those gained through September 30, 2011. For legitimate comparison of accession among applicants in 2011 and the previous five years, we calculated a within-fiscal year accession rate, which takes into account only accessions that occurred in the same fiscal year as the MEPS physical. Therefore, when 2011 and 2006-2010 figures are compared, the follow up time for observing accessions will be comparable.
- To derive percentages and rates, data sets were merged at the individual level by Social Security Number (SSN). For example, in determining the percentage of individuals gained in 2011 who received a discharge, only discharges with a SSN matching a 2011 accession record SSN were included.
- Non-missing totals may vary slightly among tables depending upon the variable by which percentages or rates are presented. Records with a missing variable value used to calculate a percentage or rate in a given table are not included in that table, though the record may appear in other tables.
- Under the subsections titled “Active Duty Applicants and Accessions,” “Reserve Applicants and Accessions,” “National Guard Applicants and Accessions,” and “Medical Waivers,” education level and age were obtained at the time of MEPS application because MEPS data are the only source of these variables for applicants. For subsections titled “Hospitalizations,” “Attrition,” “EPTS Discharges,” and “Disability Discharge Considerations with an Accession Record,” age, education level, and Armed Forces Qualification Test (AFQT) score at time of accession are used. Under the Delayed Entry Program, the application process can occur up to 2 years before the actual accession takes place.

- Temporary medical disqualifications are for conditions that can be corrected, such as being overweight or recently using marijuana; these individuals may enter the military without a waiver after the condition is corrected. Permanent medical disqualifications are for all other disqualifying conditions described in DoD Instruction 6130.03.
- Beginning in the FY 2008 Annual report, the way International Classification of Diseases, 9th revision (ICD-9) codes are summarized was revised in order to establish more uniform granularity over the range of ICD-9 codes reported for MEPS disqualification and waivers. This was done by selecting a subset of codes based on expert opinion that were exceptionally broad and reporting them to four digits rather than three (summarized in Table 2.1). For example, 493 is specific to asthma whereas 733 denotes a diverse array of bone and cartilage disorders, which include osteoporosis, pathologic fractures, bone cysts, and aseptic necrosis. Please note, when a majority of codes examined out to the fourth digit do not have a fourth digit (either due to insufficient information at time of coding or to errors) it is possible to have a three-digit code appear in the top-20 medical conditions tables, even though the raw codes were examined out to the fourth digit. Such codes are treated as a distinct category and are in no case to be considered a parent term if a more specific code is present. For example, the ICD-9 groups specified by 785 and 785.0 are mutually exclusive categories and the latter is not a subset of the former.

TABLE 2.1 LIST OF ICD-9 CODING GROUPS SUMMARIZED TO THE FOURTH DIGIT

ICD-9 [†]	Condition
305	Nondependent abuse of drugs
306	Physiological malfunction arising from mental factors
307	Special symptoms or syndromes, not elsewhere classified
718	Other derangement of joint
719	Other and unspecified disorders of joint
724	Other and unspecified disorders of back
726	Peripheral enthesopathies and allied syndromes
733	Other disorders of bone and cartilage
746	Other congenital anomalies of heart
754	Certain congenital musculoskeletal deformities
756	Other congenital musculoskeletal anomalies
780	General symptoms
783	Symptoms concerning nutrition, metabolism, and development
784	Symptoms involving head and neck
785	Symptoms involving cardiovascular system
795	Other and nonspecific abnormal cytological, histological, immunological and DNA test findings
796	Other nonspecific abnormal findings

[†]Differences in the level of coding specificity (3-digit vs. 4-digit) over time can lead to misleadingly large disparities in the incidence estimates for particular disease or condition categories when comparing current year data to the previous 5-year period. For example, if the code 305.0 is used in 2006 and 2007 where previously 305 was used, the top twenty condition categories for 2008 would appear to indicate that nondependent alcohol abuse is an emerging vs. established problem.

Active Duty Applicants and Accessions

Tables 2.2 through 2.9 describe the population of applicants who received a medical examination and subsequent accessions for active duty enlisted service in the Army, Air Force, Navy, and Marine Corps. Individuals were counted once, either in the component and service in which they access, or for applicants who did not access, in the service and component of most recent application. Applicants for enlisted service who subsequently accessed as officers (as indicated by a pay grade of O01-O06), were included as applicants, but excluded from accessions.

The number of applicants and the percentage of subsequent accession among these applicants from 2006 to 2010 as compared to 2011 are shown in Table 2.2. The percentages of accessions are shown in two ways: 1) total accession through the end of 2011 and 2) accession in the same fiscal year as application. Presentation of the average 'within fiscal year' accession rate is provided for the years of 2006-2010 as a basis of comparison to the 'within fiscal year' accession rate for 2011. Average within fiscal year accession rates decreased across all services except the Navy in 2011 compared to 2006-2010. For the Army, the within fiscal year accession rate was 34.6% in 2011, notably lower than the rate for the Army in 2006-2010 (50.4%).

TABLE 2.2 ACCESSIONS FOR ENLISTED ACTIVE DUTY APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION BY SERVICE IN 2006-2010 VS. 2011

Service	2006 – 2010			2011	
	Applicants	Accession rate within fiscal year	Accession rate overall	Applicants	Accession rate within fiscal year
Army	467,672	50.4	71.4	80,585	34.6
Navy	252,929	32.9	70.7	41,882	31.6
Marine Corps	234,135	40.8	72.8	44,195	29.0
Air Force	186,110	40.0	78.5	32,439	37.4
Total	1,140,846	-	-	199,101	-

Table 2.3 shows the number of applicants for enlisted service by year for 2006-2011 and the associated accession counts and rates within one year and within two years following application. Regulations state that accessions must occur within one year of application, although it is fairly common for applicants to request and to be granted a one-year extension. Due to the lack of full two-year follow-up data for 2010 applicants and one year follow-up for 2011 applicants, the corresponding accession rates were underestimated (see note below Table 2.3). One and two year accession rates have decreased in the period from 2006 to 2010.

TABLE 2.3 ACCESSIONS WITHIN ONE AND TWO YEARS OF APPLICATION FOR ENLISTED ACTIVE DUTY APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2011

Year of exam	Applicants	No. within 1 year of application	% within 1 year of application	No. within 2 years of application	% within 2 years of application
2006	212,673	148,182	69.7	156,562	73.6
2007	206,800	144,458	69.9	153,770	74.4
2008	239,373	164,732	68.8	175,865	73.5
2009	263,014	171,799	65.3	187,650	71.3
2010	218,986	142,422	65.0	153,741	70.2 [†]
2011	199,101	66,062	33.2 [†]	-	-
Total	1,339,947	837,655	-	893,650	-

[†] The proportion of applicants who accessed was underestimated due to a lack of sufficient follow-up data since only accessions through 2011 are reported in the above table.

Tables 2.4 through 2.8 show demographic characteristics (at time of application) and accession rates for the applicant pools in 2006-2010 and 2011. Most applicants in 2011 were male (82.2%), aged 17-20 years (67.5%), and white (75.1% among those who reported race). Most applicants had a high school diploma (64.4%); demographic distributions of accessions largely reflect the applicant population. In both applicants and accessions the demographic profile observed in 2011 is similar to that observed in the previous five years with the exception of education and AFQT scores. In 2011, applicants and accessions more commonly had achieved at least a high school diploma and scored in the 50th percentile or higher on the AFQT relative to the previous five years.

TABLE 2.4 GENDER OF ENLISTED ACTIVE DUTY APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 vs. 2011

Gender	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Male	934,531	81.9	694,411	83.7	163,531	82.2	54,558	82.6
Female	206,022	18.1	135,073	16.3	35,359	17.8	11,504	17.4
Total [†]	1,140,846	-	829,484	-	199,101	-	66,062	-

[†] Some individuals with a missing value for gender are included in the total.

TABLE 2.5 AGE OF ENLISTED ACTIVE DUTY APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 vs. 2011

Age group at MEPS	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
17 – 20	747,166	65.8	563,192	68.2	134,160	67.5	44,665	67.9
21 – 25	291,032	25.6	205,017	24.8	49,375	24.8	16,606	25.2
26 – 30	66,594	5.9	41,151	5.0	11,070	5.6	3,380	5.1
> 30	31,539	2.8	16,213	2.0	4,185	2.1	1,125	1.7
Total	1,140,846	-	829,484	-	199,101	-	66,062	-

TABLE 2.6 RACE OF ENLISTED ACTIVE DUTY APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 vs. 2011

Race	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
White	863,309	76.5	639,330	77.1	147,539	75.1	49,555	75.0
Black	167,391	14.8	121,213	14.6	31,684	16.1	11,575	17.5
Other	97,476	8.6	68,457	8.3	17,249	8.8	4,915	7.4
Missing or declined [†]	12,670	-	484	-	2,629	-	17	-
Total	1,140,846	-	829,484	-	199,101	-	66,062	-

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

TABLE 2.7 EDUCATION LEVEL OF ENLISTED ACTIVE DUTY APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 vs. 2011

Education	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Below HS Senior [†]	13,204	1.2	7,773	0.9	85	0.0	26	0.0
HS Senior	158,372	13.9	98,444	11.9	41,847	21.0	6,503	9.8
HS Diploma	827,466	72.5	632,426	76.2	128,235	64.4	50,885	77.0
Some College	72,315	6.3	53,350	6.4	13,707	6.9	5,257	8.0
Bachelor's and above	69,489	6.1	37,491	4.5	15,227	7.6	3,391	5.1
Total	1,140,846	-	829,484	-	199,101	-	66,062	-

[†] Encompasses the following: 1) those pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc; 2) those not attending high school and who are neither a high school graduate nor an alternative high school credential holder; 3) those attending high school and not yet a senior.

TABLE 2.8 AFQT SCORE CATEGORIES OF ENLISTED ACTIVE DUTY APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 vs. 2011

AFQT score	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
93 – 99	70,654	6.4	54,342	6.6	14,064	7.3	4,691	7.2
65 – 92	410,945	37.2	314,272	38.4	78,417	40.9	27,188	41.5
50 – 64	288,099	26.0	214,650	26.2	53,447	27.9	18,495	28.2
30 – 49	312,805	28.3	226,774	27.7	43,991	22.9	14,988	22.9
11 – 29 [†]	23,072	2.1	9,046	1.1	1,928	1.0	200	0.3
< 11	406	0.0	23	0.0	26	0.0	2	0.0
Missing	34,865	-	10,377	-	7,228	-	498	-
Total	1,140,846	-	829,484	-	199,101	-	66,062	-

[†] Individuals scoring in the 10 percentile or lower are prohibited from applying, therefore, the observed accessions most likely reflect data capture errors.

The medical qualification status (see Part III, Data Sources) of applicants and accessions in 2011 as compared to applicants in the previous five years is shown in Table 2.9. The percentage of qualified applicants and accessions in 2011 is higher than the overall percentage observed from 2006 to 2010; 82.8% of applicants and 90.4% of accessions were classified as medically qualified for enlisted service compared to 79.5% of applicants and 85.4% of accessions from 2006 to 2010. The increase in fully qualified applicants in 2011 corresponded with a decrease in the percentage of applicants with temporary disqualifications (4.4%) relative to the previous five years (7.9%); the percentage of permanent disqualifications in 2011 was similar to that observed in the previous five years. Among accessions, the observed increase in fully qualified accessions in 2011 corresponded to a drop in both permanent medically disqualified accessions (6.5%) and temporary medically disqualified accessions (3.1%) relative to the previous five years (8.5% and 6.0% respectively).

TABLE 2.9 MEDICAL DISQUALIFICATION STATUS OF ENLISTED ACTIVE DUTY APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 vs. 2011

Medical status	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Fully Qualified	906,959	79.5	708,750	85.4	164,826	82.8	59,708	90.4
Permanent DQ	144,114	12.6	70,774	8.5	25,550	12.8	4,296	6.5
Temporary DQ	89,773	7.9	49,960	6.0	8,725	4.4	2,058	3.1
Total	1,140,846	-	829,484	-	199,101	-	66,062	-

Reserve Applicants and Accessions

Tables 2.10 through 2.17 describe the characteristics of applicants for the enlisted Reserves of the Army, Navy, Marines, and Air Force. Data on Reserve applicants who underwent medical examinations at any MEPS are shown for the period from FY 2006 to FY 2010 in aggregate and separately for FY 2011. These results include only civilians with no prior service applying for the Reserves and do not include direct accessions from active duty military. Individuals were counted only once, either in the component and service in which they access, or for applicants who did not access, in the service and component of most recent application. Reserve applicants who subsequently accessed as officers (as indicated by a pay grade at gain of O01-06), were included as applicants, but excluded from accessions.

The number of applicants and the percentage of subsequent accession among Reserve applicants from 2006 to 2010 as compared to 2011 are shown in Table 2.10. Within fiscal year accession rate increased in the Army Reserves and remained relatively consistent across the other services in 2011. The overall accession rate during 2006-2010 is highest among the Army, lowest in the Navy and similar among the Marines and Air Force.

TABLE 2.10 ACCESSIONS FOR RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION BY SERVICE IN 2006-2010 VS. 2011

Service	2006 – 2010			2011	
	Applicants	Accession rate within fiscal year	Accession rate overall	Applicants	Accession rate within fiscal year
Army	119,984	65.0	72.8	18,492	76.4
Navy	26,229	34.0	57.6	4,238	29.2
Marine Corps	40,552	38.4	65.5	7,768	34.6
Air Force	20,497	50.9	65.3	5,929	53.8
Total	207,262	-	-	36,427	-

Table 2.11 shows the number of applicants for the Reserves by year for 2006-2011 and the associated accession counts and rates within one year and within two years following application. Regulations state that accessions must occur within one year of application, although it is fairly common for applicants to request and to be granted a one-year extension. Due to the lack of full two-year follow-up data for 2010 applicants and one year follow-up for 2011 applicants, the corresponding accession rates were underestimated (see note below Table 2.11). The accession rates within one and two years of application were slightly lower during 2006-2007, with both the accession rate and the number of applicants increasing during 2008-2009.

TABLE 2.11 ACCESSIONS WITHIN ONE AND TWO YEARS OF APPLICATION FOR RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2011

Year of exam	Applicants	No. within 1 year of application	% within 1 year of application	No. within 2 years of application	% within 2 years of application
2006	41,119	26,150	63.6	27,117	65.9
2007	38,877	25,426	65.4	26,280	67.6
2008	44,440	30,945	69.6	31,887	71.8
2009	47,483	32,087	67.6	33,239	70.0
2010	35,343	23,098	65.4	23,795	67.3 [†]
2011	36,427	21,252	58.3 [†]	-	-
Total	243,689	158,958	-	163,570	-

[†] The proportion of applicants who accessed was underestimated due to a lack of sufficient follow-up data since only accessions through 2011 are reported in the above table.

Tables 2.12 through 2.16 describe the demographic characteristics of Reserve applicants at MEPS. Most Reserve applicants in 2011 were male (76.9%), between the ages of 17 and 20 (64.1%), and white (70.9%, excluding applicants who declined to provide their racial status and those with missing records); demographic distributions of accessions largely reflect the applicant population. In both applicants and accessions the demographic profile observed in 2011 is similar to that observed in the previous five years with the exception of education and AFQT scores. In 2011, Reserve applicants and accessions more commonly had achieved at least a high school diploma and scored in the 50th percentile or higher on the AFQT relative to the previous five years.

TABLE 2.12 GENDER OF RESERVE APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 VS. 2011

Gender	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Male	157,334	75.9	109,108	76.6	27,983	76.9	16,200	76.2
Female	49,873	24.1	33,264	23.4	8,420	23.1	5,052	23.8
Total [†]	207,262	-	142,372	-	36,427	-	21,252	-

[†] Some individuals with a missing value for gender are included in the total.

TABLE 2.13 AGE OF RESERVE APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 VS. 2011

Age group at MEPS	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
17 – 20	134,963	65.6	96,405	68.3	23,239	64.1	13,898	65.9
21 – 25	44,535	21.7	29,282	20.8	8,664	23.9	4,959	23.5
26 – 30	14,358	7.0	8,730	6.2	2,692	7.4	1,412	6.7
> 30	11,848	5.8	6,669	4.7	1,646	4.5	812	3.9
Total	207,262	-	142,372	-	36,427	-	21,252	-

TABLE 2.14 RACE OF RESERVE APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 VS. 2011

Race	2006– 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
White	153,933	75.2	109,148	76.7	25,636	70.9	15,307	72.1
Black	37,024	18.1	24,537	17.2	7,731	21.4	4,545	21.4
Other	13,747	6.7	8,619	6.1	2,802	7.7	1,387	6.5
Missing or declined [†]	2,558	-	68	-	258	-	13	-
Total	207,262	-	142,372	-	36,427	-	21,252	-

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

TABLE 2.15 EDUCATION LEVEL OF RESERVE APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 VS. 2011

Education	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Below HS Senior [†]	2,759	1.3	1,924	1.4	45	0.1	28	0.1
HS Senior	46,327	22.4	35,852	25.2	7,866	21.6	4,991	23.5
HS Diploma	130,851	63.1	87,230	61.3	22,337	61.3	12,602	59.3
Some College	16,865	8.1	11,398	8.0	3,574	9.8	2,286	10.8
Bachelor's and above	10,460	5.0	5,968	4.2	2,605	7.2	1,345	6.3
Total	207,262	-	142,372	-	36,427	-	21,252	-

[†] Encompasses the following: 1) those pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc; 2) those not attending high school and who are neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school and is not yet a senior.

TABLE 2.16 AFQT SCORE CATEGORIES OF RESERVE APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 vs. 2011

AFQT score	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
93 – 99	12,202	5.9	8,340	5.9	2,431	6.7	1,383	6.5
65 – 92	71,171	34.5	50,568	35.6	13,637	37.7	8,070	38.0
50 – 64	51,806	25.1	36,323	25.5	9,237	25.6	5,439	25.6
30 – 49	64,208	31.1	44,356	31.2	9,998	27.7	6,192	29.1
11 – 29 [†]	6,485	3.1	2,416	1.7	808	2.2	142	0.7
< 11	607	0.3	235	0.2	37	0.1	18	0.1
Missing	783	-	134	-	279	-	8	-
Total	207,262	-	142,372	-	36,427	-	21,252	-

[†] Individuals scoring in the 10 percentile or lower are prohibited from applying, therefore, the observed accessions most likely reflect data capture errors.

The medical qualification status (for definition, see Part III) of the applicants for enlisted reserve is shown in Table 2.17. The percentage of fully qualified applicants and accessions in 2011 is higher than the percentage observed from 2006 to 2010. In 2011 (82.4%) of applicants were considered fully medically qualified compared to (77.9%) from the previous five years; this increase corresponded to a decrease in the percent of applicants who were temporarily disqualified in 2011 (5.2%) relative to the previous five years (8.9%). This change in the distribution of applicants resulted in a significant decrease in the proportion of accessions with a medical disqualification in 2011.

TABLE 2.17 MEDICAL DISQUALIFICATION STATUS OF RESERVE APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 vs. 2011

Medical status	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Fully Qualified	161,440	77.9	120,402	84.6	30,013	82.4	19,083	89.8
Permanent DQ	27,462	13.2	11,924	8.4	4,515	12.4	1,431	6.7
Temporary DQ	18,360	8.9	10,046	7.1	1,899	5.2	738	3.5
Total	207,262	-	142,372	-	36,427	-	21,252	-

Army and Air National Guard Applicants at MEPS with Accession Records

Tables 2.18 through 2.25 describe the characteristics of applicants in the enlisted National Guard of the Army and Air Force. The Navy and Marines do not have a National Guard component. Data on National Guard applicants who received a medical examination at MEPS are shown for the period from FY 2006 through FY 2010 (in aggregate) and separately for FY 2011. These results include only civilians with no prior service applying for the Reserves and do not include direct accessions from active duty military. Individuals were counted only once, either in the component and service in which they access, or for applicants who did not assess, in the service and component of most recent application. National Guard applicants who subsequently accessed as officers (as indicated by a pay grade at gain of O01-06), were included as applicants, but excluded from accessions.

The number of applicants and the percentage of subsequent accession among these applicants from 2006 to 2010 as compared to 2011 are shown in Table 2.18. Within fiscal year accession rates in 2011 among the Army and Air National Guard was nearly the same as the within fiscal year accession rate for 2006-2010. The within fiscal year accession rate is consistently higher in the Army than in the Air Force. However, overall accession rates in the Army and Air Force National Guard are similar.

TABLE 2.18 ACCESSIONS FOR ENLISTED ARMY AND AIR NATIONAL GUARD APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION BY SERVICE IN 2006-2010 VS. 2011

Service	2006 – 2010			2011	
	Applicants	Accession rate within fiscal year	Accession rate overall	Applicants	Accession rate within fiscal year
Army	260,412	72.1	77.7	39,349	74.5
Air Force	30,095	61.0	72.2	5,970	56.6
Total	290,507	-	.	45,319	-

Table 2.19 shows the number of applicants for the Reserves by year for 2006-2011 and the associated accession counts and rates within one year and within two years following application. Regulations state that accessions must occur within one year of application, although it is fairly common for applicants to request and to be granted a one-year extension. Due to the lack of full two-year follow-up data for 2010 applicants and one year follow-up for 2011 applicants, the corresponding accession rates were underestimated (see note below Table 2.19). The accession rates within one and two years of application were similar throughout the period 2006-2011, with the highest number of National Guard applicants in 2008.

TABLE 2.19 ACCESSIONS WITHIN ONE AND TWO YEARS OF APPLICATION FOR ENLISTED ARMY AND AIR NATIONAL GUARD APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2011

Year of exam	Applicants	No. within 1 year of application	% within 1 year of application	No. within 2 years of application	% within 2 years of application
2006	56,422	43,833	77.7	44,743	79.3
2007	56,543	43,443	76.8	44,241	78.2
2008	63,806	48,956	76.7	49,737	78.0
2009	58,843	42,533	72.3	43,540	74.0
2010	54,893	41,236	75.1	41,718	76.0
2011	45,319	32,697	72.1 [†]	-	-
Total	335,826	252,698	-	256,676	-

[†] The proportion of applicants who accessed was underestimated due to a lack of sufficient follow-up data since only accessions through 2011 are reported in the above table.

Tables 2.20 through 2.24 describe the demographics of National Guard applicants for the year 2011 relative to the aggregate demographic characteristics of applicants between 2006 and 2010. In 2011, most applicants were male (78.4%), aged 17-20 (64.5%), and white (79.1%, among those with race reported), whose highest attained education (at application) was a high school diploma (60.9%). Gender, age and race for Army and Air National Guard applicants in 2011 was similar with that observed, in aggregate, over the previous five years. However, in 2011 a higher percentage of applicants to National Guard had education beyond a high school diploma relative to the previous five year period (13.7% versus 10.3% in 2006-2010) and a higher proportion of National Guard applicants scored in the 50th percentile or higher on the AFQT.

TABLE 2.20 GENDER OF ENLISTED ARMY AND AIR NATIONAL GUARD APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 VS. 2011

Gender	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Male	228,799	78.8	177,926	79.4	35,504	78.4	25,813	78.9
Female	61,612	21.2	46,096	20.6	9,798	21.6	6,884	21.1
Total [†]	290,507	-	224,023	-	45,319	-	32,697	-

[†] Some individuals with a missing value for gender are included in the total.

TABLE 2.21 AGE OF ENLISTED ARMY AND AIR NATIONAL GUARD APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 VS. 2011

Age group at MEPS	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
17 – 20	183,751	63.9	146,421	66.2	29,041	64.5	21,998	67.9
21 – 25	66,679	23.2	49,117	22.2	10,721	23.8	7,196	22.2
26 – 30	21,457	7.5	15,240	6.9	3,282	7.3	2,071	6.4
> 30	15,633	5.4	10,355	4.7	1,969	4.4	1,130	3.5
Total	290,507	-	224,023	-	45,319	-	32,697	-

TABLE 2.22 RACE OF ENLISTED ARMY AND AIR NATIONAL GUARD APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 VS. 2011

Race	2006– 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
White	235,973	82.7	188,089	84.0	35,579	79.1	26,248	80.3
Black	38,644	13.5	28,512	12.7	7,397	16.4	5,159	15.8
Other	10,664	3.7	7,234	3.2	2,029	4.5	1,269	3.9
Missing or declined [†]	5,226	-	188	-	314	-	21	-
Total	290,507	-	224,023	-	45,319	-	32,697	-

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

TABLE 2.23 EDUCATION LEVEL OF ENLISTED ARMY AND AIR NATIONAL GUARD APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 VS. 2011

Education	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Below HS Senior [†]	16,656	5.7	12,063	5.4	1,235	2.7	650	2.0
HS Senior	69,736	24.0	59,296	26.5	10,276	22.7	8,341	25.5
HS Diploma	174,302	60.0	130,882	58.4	27,611	60.9	19,365	59.2
Some College	18,296	6.3	13,978	6.2	3,434	7.6	2,512	7.7
Bachelor's and above	11,517	4.0	7,804	3.5	2,763	6.1	1,829	5.6
Total	290,507	-	224,023	-	45,319	-	32,697	-

[†] Encompasses the following: 1) those pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc; 2) those not attending high school and who are neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school and is not yet a senior.

TABLE 2.24 AFQT SCORE CATEGORIES OF ENLISTED ARMY AND AIR NATIONAL GUARD APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 VS. 2011

AFQT score	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
93 – 99	14,597	5.0	11,796	5.3	2,969	6.6	2,210	6.8
65 – 92	91,866	31.8	75,096	33.5	16,374	36.3	12,507	38.3
50 – 64	71,814	24.8	57,881	25.9	11,261	25.0	8,507	26.0
30 – 49	97,685	33.8	75,123	33.6	13,254	29.4	9,228	28.2
11 – 29	13,292	4.6	3,954	1.8	1,239	2.7	216	0.7
Missing	990	-	132	-	203	-	29	-
Total	290,507	-	224,023	-	45,319	-	32,697	-

[†] Individuals scoring in the 10 percentile or lower are prohibited from applying, therefore, the observed accessions most likely reflect data capture errors.

The medical qualification status (for definition, see Part III, Data Sources) of National Guard applicants is shown in Table 2.25 for the year 2011 and the years 2006 through 2010. Most applicants in 2011 were classified as medically qualified (79.3%); the percentage increased from (72.4%) for the previous five years. In 2011, of those who were disqualified based on a medical condition, the proportion of applicants with a permanent disqualification was (12.6%) and temporary disqualification was (8.1%). This change in the distribution of applicants resulted in a significant decrease in the proportion of accessions with a medical disqualification in 2011 to 88.9% from 81.3% during the prior five year period.

TABLE 2.25 MEDICAL DISQUALIFICATION STATUS OF ENLISTED ARMY AND AIR NATIONAL GUARD APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2006-2010 VS. 2011

Medical status	2006 – 2010				2011			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Fully Qualified	210,434	72.4	182,135	81.3	35,940	79.3	29,072	88.9
Permanent DQ	41,321	14.2	17,538	7.8	5,723	12.6	1,888	5.8
Temporary DQ	38,752	13.3	24,350	10.9	3,656	8.1	1,737	5.3
Total	290,507	-	224,023	-	45,319	-	32,697	-

Medical Disqualifications among Applicants for First-Time Active Duty Enlisted Service

Table 2.26 shows the medical disqualifications among applicants for active duty enlisted service during the period between 2006 and 2010, and separately for 2011 according to the ICD-9 code assigned to each disqualifying condition. Within this table, the number of disqualifications for a given condition is provided along with the percentage of disqualified individuals receiving the disqualification and the prevalence of the disqualification among all MEPS applicants. These conditions are ranked according to the number of disqualifications in 2011. Some disqualified individuals have more than one disqualifying medical condition; therefore, the number of disqualifications is greater than the number of disqualified individuals.

The most frequent disqualifying condition in 2011 was disorder of refraction and accommodation, a permanent disqualification that requires an accession medical waiver. Disorders of refraction and accommodation accounted for a notably larger proportion of disqualifications in 2011 applicants (13.4%) as compared to applicants in the previous five years (5.9%). The prevalence of disqualifications for disorders of refraction and accommodation was also higher in 2011 (2,303 per 100,000 applicants) compared to applicants in the previous five years (1,202 per 100,000 applicants). The next most common condition was overweight and obesity (10.2% of disqualifications), a temporary condition, which decreased in prevalence among applicants by about 50% in 2011 relative to the previous five years to 1,762 per 100,000 applicants. Abnormal loss of weight and underweight was the third most common disqualification in 2011 accounting for 6.7% of disqualifications, up from 3.1% in 2006-2010. The prevalence of abnormal loss of weight/underweight also increased from 632 per 100,000 applicants in 2006-2010 to 1,152 per 100,000 applicants in 2011. Disqualifications for *Cannabis* abuse (4.2% in 2011) continued to decline with a prevalence that decreased by over 50% in 2011 relative to the previous five years.

¹ Selected ICD-9 codes are summarized in Table 2.1

² For a variety of reasons including data extraction and entry, some codes belonging to the groups outlined in Table 2.1 may not have a fourth digit. When summarized, these three-digit codes are a distinct category from related four-digit categories.

TABLE 2.26 MEDICAL DISQUALIFICATION CATEGORIES OF FIRST-TIME ACTIVE DUTY ENLISTED APPLICANTS BY ALL ICD-9 CODES IN 2006–2010 VS. 2011

Condition [†]	2006-2010			2011		
	n	% of DQ apps [‡]	n / 100k apps [§]	n	% of DQ apps [‡]	n / 100k apps [§]
Disorders of refraction and accommodation	13,715	5.9	1,202	4,585	13.4	2,303
Overweight, obesity and other hyperalimentation	47,722	20.4	4,183	3,509	10.2	1,762
Abnormal loss of weight and underweight	7,213	3.1	632	2,293	6.7	1,152
Hearing loss	10,789	4.6	946	1,471	4.3	739
<i>Cannabis</i> abuse	20,413	8.7	1,789	1,441	4.2	724
Hyperkinetic syndrome of childhood	3,975	1.7	348	1,170	3.4	588
Certain adverse effects not elsewhere classified	3,616	1.6	317	1,166	3.4	586
Anxiety, dissociative and somatoform disorders	5,516	2.4	484	1,053	3.1	529
Asthma	8,131	3.5	713	979	2.9	492
Other joint derangement, not elsewhere classified	1,100	0.5	96	765	2.2	384
Contact dermatitis and other eczema	3,245	1.4	284	615	1.8	309
Curvature of spine	2,001	0.9	175	523	1.5	263
Other specified nonteratogenic anomalies	881	0.4	77	513	1.5	258
Normal pregnancy	4,097	1.8	359	494	1.4	248
Internal derangement of knee	1,982	0.9	174	490	1.4	246
Disturbance of conduct, not elsewhere classified	1,263	0.5	111	429	1.3	215
Other nonspecific abnormal findings, other	1,241	0.5	109	429	1.3	215
Nonspecific findings on examination of urine	3,140	1.3	275	428	1.3	215
Depressive disorder, not elsewhere classified	2,242	1.0	197	318	0.9	160
Diseases of sebaceous glands	1,556	0.7	136	316	0.9	159
Other nonspecific abnormal findings	3,589	1.5	315	299	0.9	150
Inguinal hernia	2,273	1.0	199	299	0.9	150
Corneal opacity and other disorders of the cornea	1,156	0.5	101	281	0.8	141
Dislocation of shoulder	1,453	0.6	127	276	0.8	139
Total applicants at MEPS	1,140,846			199,101		
Total of disqualified applicants	233,887			34,275		

[†] Condition categories are not mutually exclusive.

[‡] Indicates the percentage of medically disqualified MEPS applicants for the specified condition.

[§] Indicates the number of individuals with the specified condition for every 100,000 applicants screened at MEPS.

Table 2.27 shows the medical disqualifications among applicants for active duty enlisted service during 2006 and 2010, and separately for 2011 according to Objective Medical Findings (OMF) codes provided by US Military Entrance Processing Command (USMEPCOM). These conditions are ranked according to the number of disqualifications in 2011. Some disqualified individuals have more than one disqualifying medical condition; therefore, the number of disqualifications is greater than the number of individuals disqualified.

As was observed in the more specific categorization presented in Table 2.26, weight and disorders of refraction were the top two reasons for disqualification. Weight/body build was the most common disqualifying condition, although there was a decrease in prevalence compared to previous years. Weight was a temporary disqualifying condition that can be remedied by the applicant without need for an accession medical waiver. Disorders of refraction was the second most common disqualifying OMF code, which saw an increase in prevalence similar to that observed in the ICD-9 codes in Table 2.26. The other top disqualifying conditions were psychiatric conditions, allergies, conditions of the lung and chest, and conditions of the lower and upper extremities, all permanent disqualifications requiring an accession medical waiver (See “Waivers”). The prevalence of these conditions was similar to the previous five years.

TABLE 2.27 MEDICAL DISQUALIFICATIONS OF FIRST-TIME ACTIVE DUTY ENLISTED APPLICANTS BY ALL LISTED USMEPCOM FAILURE CODES IN 2006–2010 VS. 2011

Condition [†]	2006-2010			2011		
	n	% of DQ apps [‡]	n / 100k apps [§]	n	% of DQ apps [‡]	n / 100k apps [§]
Weight, body build	56,878	24.3	4,986	5,880	17.2	2,953
Refraction	12,578	5.4	1,103	4,309	12.6	2,164
Psychiatric	21,608	9.2	1,894	4,150	12.1	2,084
Skin, lymphatic, allergies	13,532	5.8	1,186	2,359	6.9	1,185
Lungs and chest (includes breasts)	13,127	5.6	1,151	2,249	6.6	1,130
Lower extremities (except feet)	14,038	6.0	1,230	2,149	6.3	1,079
Upper extremities	11,070	4.7	970	1,907	5.6	958
Audiometer (Hearing)	10,806	4.6	947	1,422	4.2	714
Cannabis test positive	20,143	8.6	1,766	1,358	4.0	682
Abdomen and viscera (include hernia)	8,663	3.7	759	1,246	3.6	626
External genitalia (genitourinary)	7,567	3.2	663	1,244	3.6	625
Eyes – general (visual acuity and refraction)	5,606	2.4	491	1,038	3.0	521
Administrative/Documentation	7,484	3.2	656	1,014	3.0	509
Spine, other musculoskeletal	5,011	2.1	439	897	2.6	451
Feet	5,493	2.4	481	789	2.3	396
Neurologic	5,188	2.2	455	757	2.2	380
Endocrine system	2,985	1.3	262	607	1.8	305
Heart (thrust, size, rhythm, sounds)	5,217	2.2	457	596	1.7	299
Vascular system (varicosities, etc.)	2,526	1.1	221	502	1.5	252
Blood pressure	8,170	3.5	716	429	1.3	215
Urine – HGC	3,721	1.6	326	422	1.2	212
Distant vision	2,298	1.0	201	407	1.2	204
Other tests	2,661	1.1	233	401	1.2	201
Mouth and throat	1,806	0.8	158	387	1.1	194
Total Apps at MEPS	1,140,846			199,101		
Total disqualified applicants	233,887			34,275		

[†] Condition categories are not mutually exclusive.

[‡] Indicates the percentage of medically disqualified MEPS applicants for the specified condition.

[§] Indicates the number of individuals with the specified condition for every 100,000 applicants screened at MEPS

Accession Medical Waivers

Applicants who receive a permanent medical disqualification at the MEPS may be granted an accession medical waiver for the disqualifying condition(s) from a service-specific waiver authority. This section summarizes the numbers of waiver considerations from 2006 to 2011. Part I examines all waiver considerations for enlisted waiver applicants, regardless of whether or not there is a corresponding Defense Manpower Data Center (DMDC) accession record. Waiver applicants are included without regard for component; the waiver authorities' review procedures are consistent across active duty, Reserve, and National Guard applicants. Some waiver applicants with prior military service but no prior approved medical waiver may also be included in Part I. Individuals applying to multiple waiver authorities may appear more than once in Part I. Thus, this section addresses the spectrum of enlisted waiver applications seen by the waiver authorities. In addition, the waiver conditions most frequently applied for and the most frequently waived conditions for each service's waiver applicants are shown. Part II examines only those approved waiver records from Part I for which there is a matching active duty accession record in the DMDC data, and the individual has no prior service as defined elsewhere in this report. This section describes the demographic characteristics of Active Duty waiver applicants and accessions. Note that in both Part I and II, the large apparent decrease in Marine waivers is associated with missing waiver records in FY 2010 and FY 2011, which were not received by AMSARA.

Part I: Medical waivers irrespective of an accession record

Table 2.28 shows the number of individual waiver considerations and approval percentages by branch of service and year of waiver decision from 2006 through 2011. Multiple waiver considerations by the same waiver authority most frequently reflect resubmissions for the same condition, perhaps with additional information; multiple waiver records are counted in each year and in each service in which they were considered. Approval percentages represent the proportion of the total waivers considered by each service that year, listed in the table as "Count", who had a waiver consideration approved in that service by 2011. Waiver considerations by the Army generally increased through 2009, but began to decline in 2010 and 2011, while Army waiver approval rates also decreased in recent years. Waiver considerations by the Navy were relatively consistent in the last six years but approval rates have steadily declined. Except for incomplete data reporting to AMSARA by BUMED (Marine Corps waiver authority) effecting 2010 and 2011 counts, waiver considerations and approval rates for the Marines were consistent. For the Air Force, waiver considerations and approval rates have generally increased over the years.

TABLE 2.28 ALL COMPONENT WAIVER CONSIDERATIONS BY YEAR AND SERVICE*

Year	Army		Navy		Marine Corps		Air Force	
	Count	% Approved	Count	% Approved	Count	% Approved	Count	% Approved
2006	15,936	50.8	5,500	82.3	4,252	65.9	2,379	50.8
2007	14,617	63.8	5,241	81.1	4,704	70.4	2,115	52.5
2008	18,967	69.3	5,304	65.9	4,726	68.8	2,354	61.1
2009	18,591	65.3	4,775	65.4	3,852	71.1	3,214	69.1
2010	15,698	58.3	4,763	60.5	2,189**	68.6	3,268	67.1
2011	14,887	56.3	5,149	59.4	805**	73.4	2,854	62.1
Total	98,696	-	30,732	-	20,528	-	16,184	-

* Applicants may be counted more than once per year and in multiple services

** Value undercounted due to missing Marine waiver records from 2010 and 2011.

Table 2.29 describes all waiver considerations by service, including the number of considerations per individual, and the frequency with which applicants have multiple conditions. The average number of considerations per applicant was consistent across the services. The likelihood of waiver applicants having multiple conditions was similar across the services also. The Navy had the highest rate of missing conditions among all services.

TABLE 2.29 ALL COMPONENT WAIVER CONSIDERATION COUNTS*: 2006-2011

Data source	Army	Navy	Marine Corps**	Air Force
All waiver considerations	98,696	30,732	20,528	16,184
Individuals	91,397	30,361	18,863	15,903
Average number of considerations per applicant	1.08	1.01	1.09	1.02
Applicants with a single condition	81,151 (82.2%)	22,522 (73.3%)	17,788 (86.7%)	13,493 (83.4%)
Applicants with multiple conditions	15,671 (15.9%)	4,309 (14.0%)	2,625 (12.8%)	2,676 (16.5%)
Applicants with missing conditions	1,874 (1.9%)	4,171 (13.6%)†	115 (0.6%)	15 (0.1%)

* Applicants can be counted in multiple services.

** Value undercounted due to missing Marine waiver records from 2010 and 2011.

† In 2006, 56% of Navy waiver records were missing a diagnosis. In 2007-2010, about 5% of records were missing a diagnosis on average.

Tables 2.30 through 2.33 show the medical conditions for which waivers were most frequently applied and the approval rate for individuals with these conditions, for each branch of service in 2006-2011. Waiver considerations from the years 2006 to 2010 are shown in aggregate to facilitate the comparison of waivers in 2011 to previous years.

Enlisted medical accession waiver considerations and approvals for the Army are shown in Table 2.30. Disorders of refraction and accommodation were the most common medical disqualification for which waivers were sought in 2011, accounting for 16.9%, more than twice the percentage of waivers sought for this condition in the previous five years. Hearing loss was the second most common condition in 2011, representing 7.2% of waivers. The next most common conditions, anxiety disorders, adverse effects not elsewhere classified, and hyperkinetic syndrome of childhood, all show notable increases in 2011. Consistent with previous observations suggesting that disqualifications for asthma at MEPS have decreased,

3.1% of waiver applicants sought a waiver for this condition in 2011 as compared to 4.2% in the preceding five year period.

Enlisted medical accession waiver considerations and approvals for the Navy are shown in Table 2.31. In 2011, the most commonly sought waivers were for astigmatism (10.2%), myopia (9.9%), hearing loss (5.9%), allergic manifestations (4.7%), and asthma (3.6%). Waivers sought for astigmatism and myopia, both disorders of refraction and accommodation, and allergic manifestations appear to be increasing in 2011. There was also an increase in waivers sought for attention deficit with hyperactivity (to 3.6%, from 1.5%) and self-inflicted injury by unspecified means (to 2.7%, from 1.5%).

Table 2.32 shows the enlisted medical accession waiver considerations and approvals for the Marine Corps. The most commonly sought waivers in 2011 were for nonspecific abnormal findings (11.6%), disorders of refraction and accommodation (10.6%), astigmatism (9.2%), and asthma (7.1%). There was a notable increase in the proportion of waivers sought for disorders of refraction and accommodation and astigmatism compared to previous years. However, technical issues at the Marine Corps waiver authority resulted in the under-reporting of 2011 waiver applications in the Marine Corps. Applications that were received may not be representative of the Marine Corps waiver applicant population.

Table 2.33 shows the enlisted medical accession waiver considerations and approvals for the Air Force waiver authority in 2011 and in aggregate for 2006 to 2010. Disorders of refraction and accommodation were the most common condition for waiver applicants in 2011 (16.2%). The top conditions in 2011 are consistent with the top conditions in the previous five year period, although 2011 saw an increase in waiver applicants for hyperkinetic syndrome (7.3%) and anxiety disorders (4.2%) compared to previous years.

TABLE 2.30 TOP CONDITIONS FOR ENLISTED ACCESSION WAIVERS CONSIDERED IN 2006–2010 VS. 2011: ARMY

Condition [†]	2006-2010				2011			
	Applied		Approved		Applied		Approved	
	Count	% of all apps [‡]	Count	% of apprvd apps [§]	Count	% of all apps [‡]	Count	% of apprvd apps [§]
Disorders of refraction and accommodation	6,889	8.2	5,383	10.4	2,520	16.9	2,043	24.4
Hearing loss	7,952	9.5	3,424	6.6	1,073	7.2	371	4.4
Anxiety, dissociative and somatoform disorders	3,098	3.7	1,128	2.2	664	4.5	58	0.7
Certain adverse effects, not elsewhere classified ^{††}	1,911	2.3	1,501	2.9	612	4.1	493	5.9
Hyperkinetic syndrome of childhood	1,300	1.6	766	1.5	541	3.6	233	2.8
Disorders of lipid metabolism	4,523	5.4	4,009	7.7	526	3.5	423	5.0
Asthma	3,521	4.2	1,440	2.8	456	3.1	151	1.8
Other joint derangement, not elsewhere classified	493	0.6	353	0.7	439	2.9	307	3.7
Disturbance of conduct, not elsewhere classified	1,024	1.2	462	0.9	381	2.6	154	1.8
Internal derangement of knee	1,216	1.5	633	1.2	355	2.4	196	2.3
Contact dermatitis and other eczema	1,347	1.6	1,016	2.0	327	2.2	199	2.4
Depressive disorder, not elsewhere classified	1,084	1.3	410	0.8	312	2.1	23	0.3
Curvature of spine	1,010	1.2	603	1.2	279	1.9	194	2.3
Pain in joint	1,240	1.5	522	1.0	220	1.5	83	1.0
Other specified nonteratogenic anomalies	285	0.3	134	0.3	214	1.4	115	1.4
Corneal opacity and other disorders of cornea	765	0.9	134	0.3	209	1.4	61	0.7
Elevated blood pressure reading without diagnosis of hypertension	3,741	4.5	3,604	7.0	199	1.3	176	2.1
Adjustment reaction	766	0.9	308	0.6	184	1.2	25	0.3
Nondependent abuse of drugs	1,218	1.5	543	1.0	178	1.2	56	0.7
Operations on cornea	1,635	2.0	1,454	2.8	177	1.2	148	1.8
Considerations with one or more conditions that are not specified above	45,472	54.2	27,011	52.1	7,334	49.3	3,612	43.1
Total considerations*	83,809				14,887			
Total of approved applicants*	51,841 (61.9%)				8,381 (56.3%)			

[†] Condition categories are not mutually exclusive.

[‡] Indicates the percentage of waiver applicants for the specified condition category, among total waivers considered.

[§] Indicates the percentage of approved waiver applicants for the specified condition category, among total approved waivers.

^{††} Codes in this category typically include unspecified allergies and anaphylactic shock.

* This category includes waiver applicants with missing condition values.

TABLE 2.31 TOP CONDITIONS FOR ENLISTED ACCESSION WAIVERS CONSIDERED IN 2006–2010 VS. 2011: NAVY

Condition [†]	2006-2010				2011			
	Applied		Approved		Applied		Approved	
	Count	% of all apps [‡]	Count	% of apprvd apps [§]	Count	% of all apps [‡]	Count	% of apprvd apps [§]
Astigmatism	261	1.0	192	1.1	525	10.2	420	13.7
Myopia	2,177	8.5	1,483	8.1	510	9.9	307	10.0
Hearing loss	1,590	6.2	614	3.4	304	5.9	45	1.5
Allergic manifestations	517	2.0	440	2.4	244	4.7	189	6.2
Asthma	1,255	4.9	907	5.0	185	3.6	95	3.1
Attention deficit with hyperactivity	384	1.5	295	1.6	183	3.6	100	3.3
Self-inflicted injury by unspecified means	319	1.2	247	1.4	141	2.7	62	2.0
Shoulder dislocation	162	0.6	143	0.8	129	2.5	115	3.8
Deviation or curvature of spine	395	1.5	171	0.9	122	2.4	19	0.6
Shoulder instability	286	1.1	259	1.4	107	2.1	94	3.1
Keratorefractive surgery	506	2.0	478	2.6	100	1.9	85	2.8
Eczema	414	1.6	249	1.4	100	1.9	51	1.7
Depression, not otherwise specified	464	1.8	322	1.8	99	1.9	41	1.3
Adverse food reactions, not elsewhere classified	437	1.7	402	2.2	94	1.8	68	2.2
Elevated blood pressure without diagnosis of hypertension.	1,032	4.0	836	4.6	88	1.7	46	1.5
Chest wall malformation	127	0.5	82	0.4	75	1.5	48	1.6
Alcohol/drug abuse and dependence	239	0.9	158	0.9	71	1.4	37	1.2
Acne	123	0.5	56	0.3	62	1.2	14	0.5
Attention deficit without hyperactivity	167	0.7	138	0.8	60	1.2	35	1.1
Anxiety, unspecified	184	0.7	122	0.7	57	1.1	26	0.9
Considerations with one or more conditions that are not specified above	12,643	49.4	8,797	48.1	2,460	47.8	1,304	42.7
Total considerations*	25,583				5,149			
Total of approved applicants*	18,274 (71.4%)				3,057 (59.4%)			

[†] Condition categories are not mutually exclusive.

[‡] Indicates the percentage of waiver applicants for the specified condition category, among total waivers considered.

[§] Indicates the percentage of approved waiver applicants for the specified condition category, among total approved waivers.

* This category includes waiver applicants with missing condition values.

**TABLE 2.32 TOP CONDITIONS FOR ENLISTED ACCESSION WAIVERS CONSIDERED IN 2006–2010 VS. 2011:
MARINE CORPS**

Condition [†]	2006-2010				2011			
	Applied		Approved		Applied		Approved	
	Count	% of all apps [‡]	Count	% of apprvd apps [§]	Count	% of all apps [‡]	Count	% of apprvd apps [§]
Other nonspecific abnormal findings	1,944	9.9	1,341	9.9	93	11.6	71	12.0
Disorders of refraction and accommodation	739	3.7	582	4.3	85	10.6	57	9.6
Astigmatism	254	1.3	203	1.5	74	9.2	67	11.3
Asthma	1,422	7.2	952	7.0	57	7.1	41	6.9
Hyperkinetic syndrome of childhood	567	2.9	418	3.1	47	5.8	39	6.6
Hearing loss	1,565	7.9	848	6.2	38	4.7	18	3.0
Certain adverse effects, not elsewhere classified ^{‡‡}	188	1.0	167	1.2	34	4.2	28	4.7
Anxiety, dissociative, and somatoform disorders	982	5.0	678	5.0	26	3.2	23	3.9
Nondependent abuse of drugs	380	1.9	281	2.1	15	1.9	13	2.2
Contact dermatitis and other eczema	367	1.9	234	1.7	15	1.9	11	1.9
Shoulder, loose body in joint	406	2.1	73	0.5	14	1.7	1	0.2
Late effect of fracture of lower extremities	287	1.5	204	1.5	13	1.6	12	2.0
Disturbance of emotions specific to childhood and adolescence	369	1.9	228	1.7	12	1.5	11	1.9
Certain congenital musculoskeletal deformities	107	0.5	65	0.5	12	1.5	7	1.2
Curvature of spine	340	1.7	128	0.9	11	1.4	5	0.8
Diseases of sebaceous glands	159	0.8	112	0.8	10	1.2	5	0.8
Dislocation of shoulder	245	1.2	22	0.2	10	1.2	3	0.5
Keratoconus	130	0.7	13	0.1	9	1.1	4	0.7
Other disorders of bone and cartilage, other	1,306	6.6	1,143	8.4	8	1.0	8	1.4
Other specified anomalies of genital organs	58	0.3	45	0.3	8	1.0	8	1.4
Considerations with one or more conditions that are not specified above	9,842	49.9	6,942	51.0	207	25.7	153	25.9
Total considerations*	19,723				805			
Total of approved applicants*	13,603 (69.0%)				591 (73.4%)			

[†] Condition categories are not mutually exclusive.

[‡] Indicates the percentage of waiver applicants for the specified condition category, among total waivers considered.

[§] Indicates the percentage of approved waiver applicants for the specified condition category, among total approved waivers.

^{‡‡} Codes in this category typically include unspecified allergies and anaphylactic shock.

* This category includes waiver applicants with missing condition values.

TABLE 2.33 TOP CONDITIONS FOR ENLISTED ACCESSION WAIVERS CONSIDERED IN 2006–2010 VS. 2011: AIR FORCE

Condition [†]	2006-2010				2011			
	Applied		Approved		Applied		Approved	
	Count	% of all apps [‡]	Count	% of apprvd apps [§]	Count	% of all apps [‡]	Count	% of apprvd apps [§]
Disorders of refraction and accommodation	1,668	12.5	1,024	12.5	463	16.2	325	18.3
Hyperkinetic syndrome of childhood	617	4.6	472	5.8	207	7.3	138	7.8
Asthma	808	6.1	349	4.3	157	5.5	78	4.4
Anxiety, dissociative and somatoform disorders	310	2.3	209	2.6	119	4.2	82	4.6
Episodic mood disorders	644	4.8	423	5.2	106	3.7	54	3.0
Hearing loss	705	5.3	58	0.7	94	3.3	22	1.2
Contact dermatitis and other eczema	369	2.8	120	1.5	91	3.2	39	2.2
Bulbus cordis anomalies and anomalies of cardiac septal closure	229	1.7	157	1.9	84	2.9	69	3.9
Certain adverse effects, not elsewhere classified ^{‡‡}	94	0.7	80	1.0	73	2.6	56	3.2
Recurrent dislocation of joint	185	1.4	150	1.8	71	2.5	64	3.6
Other joint derangement, not elsewhere classified	184	1.4	147	1.8	68	2.4	57	3.2
Other personal history presenting hazards to health	34	0.3	14	0.2	44	1.5	15	0.8
Other and unspecified disorders of bone and cartilage	98	0.7	90	1.1	41	1.4	26	1.5
Lack of expected normal physiological development in childhood	258	1.9	201	2.5	38	1.3	32	1.8
Curvature of spine	49	0.4	14	0.2	34	1.2	5	0.3
Adjustment reaction	177	1.3	118	1.4	32	1.1	15	0.8
Diseases of sebaceous glands	101	0.8	79	1.0	31	1.1	25	1.4
Congenital anomalies of spine	110	0.8	37	0.5	30	1.1	7	0.4
Diseases of esophagus	141	1.1	108	1.3	30	1.1	22	1.2
Tachycardia, unspecified	392	2.9	368	4.5	29	1.0	27	1.5
Considerations with one or more conditions that are not specified above	7,689	57.7	4,757	58.2	1,428	50.0	810	45.7
Total considerations*	13,330				2,854			
Total of approved applicants*	8,172 (61.3%)				1,773 (62.1%)			

[†] Condition categories are not mutually exclusive.

[‡] Indicates the percentage of waiver applicants for the specified condition category, among total waivers considered.

[§] Indicates the percentage of approved waiver applicants for the specified condition category, among total approved waivers.

^{‡‡} Codes in this category typically include unspecified allergies and anaphylactic shock.

* This category includes waiver applicants with missing condition values.

Tables 2.34 through 2.37 show the most frequently approved waiver conditions ranked by waiver consideration approval percentage in aggregate for 2006-2011, sorted in descending order by overall approval rate. The same population of considerations was used as in Tables 2.30-2.33. Note that conditions are not exclusive. An individual may appear in the table in multiple condition rows, but will have the same outcome in each.

In Table 2.34, among Active Duty Army applicants, waivers for elevated blood pressure without a diagnosis of hypertension (88.4%) and toxic effect of noxious substances eaten as food (90.3%) had the highest proportion of approved applications in 2011. The next most common conditions, palpitations, normal pregnancy, operations on cornea, and tachycardia, saw a decrease in the proportion of approved waiver applications in 2011. Of these conditions, palpitations and tachycardia saw the largest drop in approved waiver percentage, with only 66.7% of waivers for both palpitations and tachycardia approved in 2011 compared to 91.9% and 89.5% for palpitations and tachycardia, respectively, in 2006-2010.

Table 2.35 shows approval rates were generally lower for waivers considered by the Navy waiver authority in 2011 compared to the previous five years. Surgical correction of knee ligaments had the highest approval rate in 2011 (92.0%), while hyperlipidemia and persistent tachycardia had the greatest decrease in approval rates compared to 2006 to 2010.

Table 2.37 shows that among Air Force enlistees, the conditions with the highest proportion of approved applications generally had a low number of applicants. Waiver applications for tachycardia and recurrent dislocation of joint had the highest approval rates, aside from the conditions with 100% approval rates and application counts less than 10.

TABLE 2.34 CONDITION-SPECIFIC CATEGORIES FOR THOSE ACCESSION MEDICAL WAIVERS WITH THE HIGHEST PROPORTION OF APPROVED APPLICATIONS AMONG ARMY ENLISTEES: 2006–2010 VS. 2011

Condition [†]	Total		2006-2010		2011	
	Count	% Granted	Count	% Granted	Count	% Granted
Elevated blood pressure reading without diagnosis of hypertension	3,940	95.9	3,741	96.3	199	88.4
Toxic effect of noxious substances eaten as food	236	90.7	205	90.7	31	90.3
Palpitations	313	90.4	295	91.9	18	66.7
Normal pregnancy	550	89.1	487	89.9	63	82.5
Operations on cornea	1,812	88.4	1,635	88.9	177	83.6
Tachycardia, unspecified	308	88.0	287	89.5	21	66.7
Disorders of lipid metabolism	5,049	87.8	4,523	88.6	526	80.4
Other hernia of abdominal cavity without mention of obstruction or gangrene	385	86.5	361	89.2	24	45.8
Symptoms involving cardiovascular system	720	85.8	665	87.7	55	63.6
Endometriosis	260	84.6	219	88.1	41	65.9
Congenital anomalies of genital organs	1,000	83.5	872	87.2	128	58.6
Nonspecific findings on examination of blood	1,243	83.3	1,090	84.9	153	72.5
Recurrent dislocation of joint	205	82.4	131	84	74	79.7
Other and unspecified disorders of bone and cartilage	2,109	82.3	2,031	82.9	78	66.7
Other and nonspecific abnormal histological and immunological findings [‡]	316	81.0	301	81.1	15	80.0
Fitting and adjustment of other device	661	79.9	580	81.0	81	71.6
Varicose veins of other sites	252	79.8	174	79.3	78	80.8
Under height	321	79.4	263	81.0	58	72.4
Other personal history presenting hazards to health	426	79.3	337	81.0	89	73.0
Noninflammatory disorders of cervix	203	79.3	188	80.9	15	60.0

[†] Condition categories are not mutually exclusive.

[‡] Codes in this category typically include nonspecific reaction to the tuberculin skin test (without active TB) and abnormal results from a Papanicolaou smear.

TABLE 2.35 CONDITION-SPECIFIC CATEGORIES FOR THOSE ACCESSION MEDICAL WAIVERS WITH THE HIGHEST PROPORTION OF APPROVED APPLICATIONS AMONG NAVY ENLISTEES: 2006–2010 VS. 2011

Condition [†]	Total		2006-2010		2011	
	Count	% Granted	Count	% Granted	Count	% Granted
Keratorefractive surgery	606	92.9	506	94.5	100	85.0
Shoulder instability	393	89.8	286	90.6	107	87.9
Orthopedic hardware	1,059	89.7	1,022	90.3	37	73.0
Surgical correction of any knee ligaments	144	89.6	119	89.1	25	92.0
Shoulder dislocation	291	88.7	162	88.3	129	89.1
Adverse food reactions, not elsewhere classified	531	88.5	437	92.0	94	72.3
Varicocele	113	86.7	89	88.8	24	79.2
Dislocation if unreduced, or recurrent dislocations of any major joint, knee,	108	84.3	52	80.8	56	87.5
Absence of testicle, acquired	120	84.2	110	86.4	10	60.0
Anterior cruciate ligament injury	197	83.8	157	84.7	40	80.0
Hyperlipidemia	129	83.7	104	91.3	25	52.0
Persistent tachycardia	513	83.2	463	85.7	50	60.0
Dysplastic nevi syndrome	118	83.1	91	82.4	27	85.2
Allergic manifestations	761	82.7	517	85.1	244	77.5
Injury of bone or joint; upper extremity	200	81.5	166	83.1	34	73.5
Contact dermatitis	147	80.3	121	83.5	26	65.4
Elevated blood pressure without diagnosis of hypertension.	1,120	78.8	1,032	81.0	88	52.3
Astigmatism	786	77.9	261	73.6	525	80.0
Chronic retropatellar knee pain syndrome	172	77.3	138	79.7	34	67.6
Absence of testicle, congenital	109	77.1	97	78.4	12	66.7

[†] Condition categories are not mutually exclusive.

TABLE 2.36 CONDITION-SPECIFIC CATEGORIES FOR THOSE ACCESSION MEDICAL WAIVERS WITH THE HIGHEST PROPORTION OF APPROVED APPLICATIONS AMONG MARINE CORPS ENLISTEES: 2006–2010 VS. 2011

Condition [†]	Total		2006-2010		2011	
	Count	% Granted	Count	% Granted	Count	% Granted
Elevated blood pressure reading without diagnosis of hypertension	212	95.3	207	95.2	5	100.0
Contact dermatitis and other eczema, due to other chemical products	72	94.4	71	94.4	1	100.0
Nevus, non-neoplastic	81	93.8	78	93.6	3	100.0
Other reconstructive and refractive surgery on cornea	355	93.0	350	92.9	5	100.0
Symptoms involving cardiovascular system	293	92.8	287	92.7	6	100.0
Other and nonspecific abnormal histological and immunological findings [‡]	63	92.1	61	91.8	2	100.0
Open wound of genital organs including traumatic amputation, scrotum and testes without mention of complication	72	90.3	69	89.9	3	100.0
Essential hypertension	666	88.1	660	88.0	6	100.0
Certain adverse effects, not elsewhere classified [§]	222	87.8	188	88.8	34	82.4
Other disorders of bone and cartilage, other	1,314	87.6	1,306	87.5	8	100.0
Astigmatism	328	82.3	254	79.9	74	90.5
Intracranial injury of other and unspecified nature	154	81.8	150	81.3	4	100.0
Scars conditions and fibrosis of skin	100	81.0	93	80.6	7	85.7
Other specified anomalies of genital organs	66	80.3	58	77.6	8	100.0
Other hernia of abdominal cavity without mention of obstruction or gangrene	58	79.3	57	78.9	1	100.0
Enthesopathy of elbow region	76	77.6	75	77.3	1	100.0
Myopia	907	77.6	906	77.6	1	100.0
Disorders of refraction and accommodation	824	77.5	739	78.8	85	67.1
Acquired deformities of toe	86	76.7	82	76.8	4	75.0
Late effect of fracture of upper extremities	81	76.5	79	75.9	2	100.0

[†] Condition categories are not mutually exclusive.

[‡] Codes in this category typically include nonspecific reaction to the tuberculin skin test (without active TB) and abnormal results from a Papanicolaou smear.

[§] Codes in this category typically include unspecified allergies and anaphylactic shock.

TABLE 2.37 CONDITION-SPECIFIC CATEGORIES FOR THOSE ACCESSION MEDICAL WAIVERS WITH THE HIGHEST PROPORTION OF APPROVED APPLICATIONS AMONG AIR FORCE ENLISTEES: 2006–2010 VS. 2011

Condition [†]	Total		2006-2010		2011	
	Count	% Granted	Count	% Granted	Count	% Granted
Tachycardia, unspecified	421	93.8	392	93.9	29	93.1
Elevated blood pressure reading without diagnosis of hypertension	82	90.2	78	89.7	4	100.0
Reduction of fracture and dislocation	628	90.0	607	90.1	21	85.7
Recurrent dislocation of joint	256	83.6	185	81.1	71	90.1
Other and unspecified disorders of bone and cartilage	139	83.5	98	91.8	41	63.4
Essential hypertension	323	83.0	294	83.3	29	79.3
Undiagnosed cardiac murmurs	92	82.6	91	82.4	1	100.0
Certain adverse effects, not elsewhere classified [§]	167	81.4	94	85.1	73	76.7
Other joint derangement, not elsewhere classified	252	81.0	184	79.9	68	83.8
Nevus, non-neoplastic	78	79.5	71	77.5	7	100.0
Repair and plastic operations on joint structures	200	79.5	177	80.8	23	69.6
Flat foot	120	79.2	109	80.7	11	63.6
Diseases of sebaceous glands	132	78.8	101	78.2	31	80.6
Lack of expected normal physiological development in childhood	296	78.7	258	77.9	38	84.2
Infections of kidney	59	78.0	51	78.4	8	75.0
Congenital anomalies of genital organs	183	77.0	157	77.1	26	76.9
Diseases of esophagus	171	76.0	141	76.6	30	73.3
Internal derangement of knee	86	74.4	58	75.9	28	71.4
Hyperkinetic syndrome of childhood	824	74.0	617	76.5	207	66.7
Cardiac dysrhythmias	67	73.1	50	74.0	17	70.6

[†] Condition categories are not mutually exclusive.

[§] Codes in this category typically include unspecified allergies and anaphylactic shock.

Part II: Medical waivers with an accession record

Table 2.38 shows the numbers of enlisted active duty applicants who were granted accession medical waivers who had a MEPS physical examination record indicating no prior service. Individuals are counted once, in the most recent year of waiver consideration. Results are shown for each year from 2006 to 2011 for all service branches combined. Also shown are the numbers and percentages of these individuals who were subsequently gained onto enlisted active duty service within one and two years of their most recent MEPS visit. The proportion of individuals granted waivers who subsequently become accessions within one and two years of their MEPS physical has decreased in the period from 2006 to 2011.

TABLE 2.38 ACTIVE DUTY ACCESSIONS WITHIN ONE AND TWO YEARS OF PHYSICAL EXAMINATION FOR ENLISTED APPLICANTS WHO RECEIVED A WAIVER IN 2006–2011[†]: BY YEAR

Year of waiver consideration	Applicants with waivers granted	Applicants who accessed within 1 year of application		Applicants who accessed within 2 years of application	
		Count	%	Count	%
2006	10,889	8,062	74.0	8,865	81.4
2007	11,851	8,884	75.0	9,812	82.8
2008	13,831	10,376	75.0	11,437	82.7
2009	14,142	9,527	67.4	11,075	78.3
2010*	11,774	7,651	65.0	9,280	78.8
2011 [‡]	10,891	3,760	34.5	4,212	38.7

[†] Considers accessions among only those applicants with both a MEPS physical examination for Active Duty service record and an approved waiver.

* Value undercounted due to missing Marine waiver records from 2010 and 2011.

[‡] The accession rate was underestimated due to a lack of sufficient follow up time.

Tables 2.39 through 2.43 describe the characteristics of applicants who were granted waivers from all branches of service. Individuals with a corresponding MEPS active duty application record as well as subsequent accessions are shown for 2006-2010 and separately for 2011. Total numbers of records used in calculating percents vary slightly depending upon the completeness of data on the demographic factor being considered. For example, an individual with missing data on gender, but not race, will be included in the description of race of applicants but not in the description of gender.

Individuals who accessed with waivers in 2011 were similar to the waiver applicant population with respect to age and race. Age and race distribution of waiver applicants in 2011 were similar to the waiver applicant population in 2006-2010 regardless of accession. In 2011, more females applied for waiver and accessed with waiver than in 2006-2010. The prevalence of education beyond high school was higher in 2011 in both applicants granted waivers and those who accessed following waiver. AFQT scores in 2011 appear to be somewhat higher among enlisted waiver applicants compared to the previous five years. A similar distribution was seen among waiver applicants that subsequently accessed. Over 98% of applicants and accessions approved for a waiver have a permanently disqualified status with relatively few fully qualified or temporarily disqualified individuals seeking one. The proportion of permanently disqualified individuals among those receiving waivers was similar in 2011 as compared to prior years.

TABLE 2.39 GENDER DISTRIBUTION OF ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2006-2010 vs. 2011

Gender	2006- 2010				2011			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
Male	51,354	82.2	42,260	83.5	8,811	80.9	3,404	80.5
Female	11,127	17.8	8,327	16.5	2,079	19.1	827	19.5
Total [†]	62,487	-	50,587	-	10,891	-	4,231	-

[†] Some individuals with a missing value for gender are included in the total.

TABLE 2.40 AGE DISTRIBUTION OF ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2006-2010 vs. 2011

Accession Age group	2006-2010				2011			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
17 – 20	35,221	56.4	29,212	57.7	6,400	58.8	2,447	57.8
21 – 25	18,120	29.0	14,683	29.0	3,249	29.8	1,259	29.8
26 – 30	4,981	8.0	3,788	7.5	808	7.4	322	7.6
> 30	3,872	6.2	2,615	5.2	407	3.7	176	4.2
Missing /Unsure	293	0.5	289	0.6	27	0.3	27	0.6
Total	62,487	-	50,587	-	10,891	-	4,231	-

TABLE 2.41 DISTRIBUTION OF RACE AMONG ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2006-2010 vs. 2011

Race [†]	2006-2010				2011			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
White	48,770	78.7	40,039	79.2	8,235	76.6	3,275	77.4
Black	7,861	12.7	6,299	12.5	1,460	13.6	627	14.8
Other	5,321	8.6	4,228	8.4	1,055	9.8	329	7.8
Missing or declined	535	-	21	-	141	-	0	-
Total	62,487	-	50,587	-	10,891	-	4,231	-

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

TABLE 2.42 DISTRIBUTION OF EDUCATION (HIGHEST LEVEL ATTAINED AT ACCESSION) AMONG ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2006-2010 VS. 2011

Education level	2006-2010				2011			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
Below HS senior [†]	604	1.0	413	0.8	5	<0.1	2	<0.1
HS senior	6,431	10.3	4,481	8.9	1,312	12.1	266	6.3
HS diploma	46,278	74.1	38,469	76.0	7,581	69.6	3,179	75.1
Some college	4,960	7.9	4,035	8.0	1,075	9.9	446	10.5
Bachelor's and higher	4,214	6.7	3,189	6.3	918	8.4	338	8.0
Total	62,487	-	50,587	-	10,891	-	4,231	-

[†] Encompasses the following three cases: 1) one who is pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc.; 2) one who is not attending high school and who is neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school but is not yet a senior

TABLE 2.43 DISTRIBUTION OF AFQT SCORE GROUPS AMONG ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2006-2010 VS. 2011

AFQT score	2006-2010				2011			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
93-99	5,514	8.9	4,513	9.0	1,108	10.2	413	9.8
65-92	24,373	39.4	20,008	39.8	4,713	43.3	1,801	42.6
50-64	15,508	25.1	12,571	25.0	2,902	26.7	1,166	27.6
30-49	15,816	25.6	12,747	25.3	2,106	19.4	840	19.9
11-29	682	1.1	447	0.9	47	0.4	10	0.2
Missing	558	-	299	-	14	-	1	-
Total	62,487	-	50,587	-	10,891	-	4,231	-

TABLE 2.44 DISTRIBUTION OF MEDICAL STATUS AMONG ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2006-2010 VS. 2011

Medical status	2006-2010				2011			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
Fully Qualified	523	0.8	407	0.8	75	0.7	28	0.7
Permanent DQ	61,426	98.3	49,738	98.3	10,778	99.0	4,178	98.7
Temporary DQ	538	0.9	442	0.9	38	0.4	25	0.6
Total	62,487	-	50,587	-	10,891	-	4,231	-

Hospitalizations

This section summarizes hospitalization records of service members admitted to any military facility. Part I summarizes all hospitalization records, regardless of whether AMSARA has an accession record corresponding to the hospitalized individual. These results address the burden of disease across all military services. Part II summarizes only hospitalization records among Active Duty enlistees who began service during 2006-2011 and for whom AMSARA has a corresponding Active Duty accession record. This section accordingly examines hospitalization among Active Duty enlistees early in service.

Part I: Hospitalizations irrespective of an accession record

Table 2.45 shows the overall hospitalization counts and percentages during the first and second years of service as well as counts of hospitalization at all lengths of service. Results are shown for active duty enlistees separately for 2011 and the previous five-year period. For the Army and Marines, the percent of hospitalizations occurring in the first year of service is lower than the corresponding percent for the previous five years. In the Navy and Air Force the percent of all hospitalizations occurring in the first year is similar to the previous five years. The percent of Active Duty hospitalizations occurring in the second year of service appear to be similar across all military services in 2011 compared to previous years.

TABLE 2.45 HOSPITALIZATIONS IN 2006 – 2011 BY SERVICE AND YEARS OF SERVICE: ACTIVE DUTY

Service	Years of service	2006-2010		2011	
		Count	Percent [*]	Count	Percent [*]
Army	<1	18,813	14.0	2,522	10.6
	1 – <2	18,823	14.0	3,779	16.0
	All	134,371	-	23,682	-
Navy	<1	2,533	4.9	373	3.7
	1 – <2	6,266	12.2	1,233	12.2
	All	51,528	-	10,140	-
Marine Corps	<1	7,022	19.6	1,225	15.6
	1 – <2	5,657	15.8	1,437	18.2
	All	35,819	-	7,874	-
Air Force	<1	4,853	13.9	943	14.8
	1 – <2	2,787	8.0	483	7.6
	All	34,866	-	6,385	-

^{*} Percent of all hospitalizations that occur within each time period

Table 2.46 shows hospitalizations among the Reserves. For all services, the percentage of hospitalizations occurring in the first year for 2011 was similar to 2006-2010, while the percentage occurring in the second year increased significantly compared to the previous five year period. For the Army, the percentage of hospitalizations occurring in the first year is consistently significantly greater than the second year. For the Navy and Marines, the percentage of hospitalizations occurring in the second year is significantly greater than the first year for 2011, but similar over the previous five year period. The percentage of hospitalizations

occurring in the first year in the Air Force is similar to the second year during 2011 and decreased slightly in the second year from the first year for the previous five year period.

TABLE 2.46 HOSPITALIZATIONS IN 2006 – 2011 BY SERVICE AND YEARS OF SERVICE: RESERVES

Service	Years of service	2006-2010		2011	
		Count	Percent [*]	Count	Percent [*]
Army	<1	1,424	21.2	224	22.5
	1 – <2	494	7.3	120	12.1
	All	6,722	-	994	-
Navy	<1	25	2.4	7	4.7
	1 – <2	45	4.2	22	14.8
	All	1,063	-	149	-
Marine Corps	<1	44	6.1	5	5.7
	1 – <2	53	7.3	24	27.3
	All	722	-	88	-
Air Force	<1	57	7.9	6	8.1
	1 – <2	30	4.2	7	9.5
	All	718	-	74	-

^{*} Percent of all hospitalizations that occur within each time period

Table 2.47 shows hospitalizations for the National Guard. In the Army National Guard, most hospitalizations occurred in the first year of service, while in the Air Force National Guard, most occurred in the second. Hospitalizations among second-year service members represented a greater percentage of all hospitalizations among the Army and Air Force National Guard in 2011 than in the previous five year period.

TABLE 2.47 HOSPITALIZATIONS IN 2006 – 2011 BY SERVICE AND YEARS OF SERVICE: NATIONAL GUARD

Service	Years of service	2006 - 2010		2011	
		Count	Percent [*]	Count	Percent [*]
Army	<1	2,396	20.4	402	27.7
	1 – <2	980	8.3	235	16.2
	All	11,769	-	1,449	-
Air Force	<1	30	3.9	4	3.1
	1 – <2	33	4.3	17	13.1
	All	775	-	130	-

^{*} Percent of all hospitalizations that occur within each time period

Hospitalizations for active duty enlisted service members by condition category and service are shown in Table 2.48 for the years 2006 to 2010 in aggregate and separately for 2011 irrespective of length of service. For each service, complications of pregnancy were the most common conditions for which hospitalizations occurred in 2006-2010 and in 2011. The percentage of hospitalizations in 2011 attributable to this category was lower in the Marines (13.7%) and Army (17.8%) than in the Navy (32.4%) and Air Force (31.2%). Among enlisted Army members, the next most common categories for hospitalizations in 2011 included neurotic, personality and other nonpsychotic disorders (10.9%), fractures (5.6%), and nonspecific symptoms (5.3%). The percentage of injuries dropped from (8.0%) of Army hospitalizations in 2006-2010 to (4.9%) in 2011. Among enlisted Navy members in 2011, complications of pregnancy was followed by neurotic, personality and other nonpsychotic disorders (10.5%), other psychoses (5.4%), and nonspecific symptoms (4.2%) as the most common causes of hospitalizations. The percentage of neurotic, personality and other nonpsychotic disorders increased from (6.7%) of Navy hospitalizations in 2006-2010 to (10.5%) in 2011. Among Marines, complications of pregnancy (13.7%), neurotic, personality and other nonpsychotic disorders (11.5%), and fractures (7.9%) were the most common hospitalizations in 2011. Complications of pregnancy (31.2%), neurotic, personality and other nonpsychotic disorders (7.3%), and nonspecific symptoms (5.8%) were the most common hospitalizations among enlisted Air Force members in 2011. The distribution of causes of hospitalization among Marines and Air Force members in 2011 was similar to the distribution in 2006-2010.

TABLE 2.48 DISTRIBUTION OF PRIMARY CAUSE CATEGORIES FOR HOSPITALIZATIONS IRRESPECTIVE OF LENGTH OF SERVICE AMONG ACTIVE DUTY ENLISTEES IN 2006–2010 VS. 2011: BY SERVICE

Category	Army		Navy		Marine Corps		Air Force	
	*2006-2010	*2011	*2006-2010	*2011	*2006-2010	*2011	*2006-2010	*2011
Complications of pregnancy, childbirth, and the puerperium	15.7	17.8	34.5	32.4	13.3	13.7	31.1	31.2
Neurotic disorders, personality disorders, and other nonpsychotic mental disorders	9.8	10.9	6.7	10.5	9.9	11.5	7.1	7.3
Injuries	8.0	4.9	2.9	2.4	8.0	7.7	2.5	2.2
Fracture	7.2	5.6	3.5	3.0	8.0	7.9	2.8	2.6
Nonspecific symptoms	5.4	5.3	4.5	4.2	3.3	3.5	5.5	5.8
Psychoses	4.6	5.1	4.7	5.4	5.6	6.6	3.0	3.1
Infections of skin and subcutaneous tissue	3.1	2.2	2.6	1.9	5.4	3.8	2.4	2.3
Arthropathies and related disorders	3.0	1.9	2.3	1.8	3.8	2.0	1.9	1.6
Dorsopathies	2.8	3.1	2.4	2.1	1.6	1.2	2.5	2.5
Complications of surgical and medical care, not elsewhere classified	2.3	2.6	2.1	1.8	2.6	2.7	2.2	1.8
Appendicitis	2.2	2.5	3.3	3.3	3.5	3.5	3.3	3.4
Pneumonia and influenza	2.2	1.5	0.6	0.8	3.8	3.4	1.4	1.2
Alcohol and drug dependence	2.1	3.1	2.2	2.6	2.4	2.6	1.0	1.1
Rheumatism, excluding the back	1.9	1.4	1.0	1.0	2.0	2.0	1.2	0.8
Poisoning and toxic effects	1.7	1.8	1.0	0.9	1.5	1.5	0.7	0.6
Other diseases of digestive system	1.6	1.9	2.1	2.2	1.2	1.2	2.0	1.9
Osteopathies, chondropathies, and acquired musculoskeletal deformities	1.5	1.3	0.9	0.7	1.7	1.4	1.0	0.8
Diseases of the oral cavity, salivary glands, and jaws	1.4	1.4	1.0	1.0	1.1	1.5	2.8	4.0
Other diseases of urinary system	1.3	1.2	1.2	1.3	1.0	0.9	1.6	1.5
Hernia of abdominal cavity	1.2	1.0	0.5	0.3	1.0	0.7	0.6	0.9
Others	18.7	19.9	17.5	17.2	16.5	15.6	21.5	20.9
Total hospitalizations	134,371	23,682	51,528	10,140	35,819	7,874	34,866	6,385

Table 2.49 shows the percentage hospitalized by primary cause and component of service in aggregate for 2006-2010 and separately for 2011. The Navy and Marine Corps do not have a National Guard component. In 2011, complications of pregnancy (22.0%) were the most common reason for hospitalizations among active duty members followed by neurotic, personality and other nonpsychotic disorders (10.4%), other psychoses (5.1%), and fractures (5.0%). Among Reservists, the most common causes of hospitalizations in 2011 were neurotic, personality and other nonpsychotic disorders (8.1%), nonspecific symptoms (7.4%), complications of pregnancy (5.9%), and fractures (5.5%). For the National Guard the most common hospitalization causes in 2011 were neurotic, personality and other nonpsychotic disorders (11.0%), fractures (8.0%), nonspecific symptoms (6.6%) and injuries (5.4%). In general, the contribution of each category to the sum of all hospitalizations within a service was similar between 2011 and 2006-2010, except for the increase in proportion of neurotic, personality and other nonpsychotic disorders and the reduction in the proportion of injuries in 2011 compared to the previous five year period for all components.

TABLE 2.49 DISTRIBUTION OF PRIMARY CAUSE CATEGORIES FOR HOSPITALIZATIONS IRRESPECTIVE OF LENGTH OF SERVICE AMONG ENLISTEES IN 2006–2010 VS. 2011: BY COMPONENT

Category	Active Duty		Reserves		National Guard	
	*2006-2010	*2011	*2006-2010	*2011	*2006-2010	*2011
Complications of pregnancy, childbirth, and the puerperium	21.3	22.0	5.7	5.9	3.1	3.4
Neurotic disorders, personality disorders, and other nonpsychotic mental disorders	8.8	10.4	7.0	8.1	7.9	11.0
Injuries	6.2	4.5	6.1	4.4	7.8	5.4
Fracture	6.0	5.0	5.7	5.5	7.3	8.0
Nonspecific symptoms	4.9	4.9	8.8	7.4	8.7	6.6
Psychoses	4.5	5.1	4.4	5.2	4.5	4.6
Infections of skin and subcutaneous tissue	3.2	2.4	3.5	2.2	4.1	2.9
Appendicitis	2.8	3.0	2.1	2.5	2.2	1.8
Arthropathies and related disorders	2.8	1.9	3.2	3.1	2.8	2.2
Dorsopathies	2.5	2.5	3.2	3.0	3.3	3.4
Complications of surgical and medical care, not elsewhere classified	2.3	2.4	2.4	2.2	2.1	2.6
Alcohol and drug dependence	2.0	2.6	1.6	1.1	1.6	2.5
Pneumonia and influenza	2.0	1.6	2.5	3.4	3.7	5.4
Other diseases of digestive system	1.7	1.9	2.4	3.1	2.3	2.2
Rheumatism, excluding the back	1.6	1.3	2.2	2.1	1.9	2.3
Diseases of the oral cavity, salivary glands, and jaws	1.5	1.7	2.2	1.4	1.7	1.1
Poisoning and toxic effects	1.4	1.4	0.8	0.8	1.0	0.9
Osteopathies, chondropathies, and acquired musculoskeletal deformities	1.3	1.1	1.7	1.5	1.7	2.1
Other diseases of urinary system	1.3	1.2	2.4	2.3	2.6	2.2
Other diseases of intestines and peritoneum	1.1	1.1	1.7	1.8	1.3	1.0
Others	18.4	18.5	27.9	29.0	25.4	24.8
Total Hospitalizations	256,584	48,081	9,225	1,305	12,544	1,579

* % of total hospitalizations

Part II: Hospitalizations among personnel with an accession record, Active Duty enlistees only

Hospitalization records of active duty enlistees who began service during 2006-2011 and for whom AMSARA has a corresponding accession record are summarized. Relative risks are used to compare the risk of hospitalization across demographic groups. The comparison group chosen for each comparison depends on the factor being considered. For factors with some inherent order (e.g. age group, which ranges from older to younger) it is the first or last group in that order, as appropriate. Otherwise, the comparison group is generally the largest group.

Table 2.50 shows the hospitalizations and individuals hospitalized among those who accessed during each year from 2006-2011. Hospitalizations are separated into two groups: one that includes hospitalizations occurring in the same year as accession and one that includes hospitalizations occurring within one year of active duty service. The former provides a basis for appropriate comparison for those who accessed in 2011, because hospitalization data were available only through 2011 in this report, allowing less than a full year of follow-up for this group. Because multiple hospitalizations can occur per person, results are shown both in terms of hospitalizations (“Admissions”) and individuals hospitalized (“Individuals”). The proportion of individuals hospitalized (% of Individuals) is relatively stable from 2006-2011.

TABLE 2.50 ACTIVE DUTY HOSPITALIZATIONS IN 2006- 2011: BY YEAR

Year	Total accessed	Within same gain year			Within one year of service		
		Admissions	Individuals	% of Individuals	Admissions	Individuals	% of Individuals
2006	158,197	3,803	3,387	2.1	7,376	6,348	4.0
2007	158,585	3,665	3,315	2.1	7,041	6,078	3.8
2008	162,814	3,447	3,126	1.9	6,369	5,583	3.4
2009	161,064	3,283	2,966	1.8	5,442	4,742	2.9
2010	159,744	2,867	2,602	1.6	4,900	4,307	2.7
2011	152,641	2,766	2,513	1.7	2,766	2,513	1.7 [*]
Total	953,045	19,831	17,909	.	33,894	29,571	.

^{*}May be underestimated due to lack of follow-up time.

Table 2.51 shows that the risk of hospital admission within one year of accession for enlisted personnel varies by service. Army enlistees had the highest risk of hospitalization in the first year following accession. Navy enlistees had the lowest risk of hospitalization among the services.

TABLE 2.51 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL ACCESSED IN 2006 – 2011: BY SERVICE

Service	Total accessed	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
Army	378,290	18,790	16,214	4.3	1.00	-
Navy	204,760	2,663	2,329	1.1	0.27	(0.25, 0.28)
Marine Corps	195,510	7,885	6,994	3.6	0.83	(0.81, 0.86)
Air Force	174,485	4,556	4,034	2.3	0.54	(0.52, 0.56)

Tables 2.52 through 2.56 summarize the demographic characteristics of enlistees hospitalized within one year of accession. The risk of hospitalization was greatest for women (Table 2.52), enlistees in the over 30 age group (Table 2.53), white enlistees (Table 2.54), enlistees who had less than a high school diploma (Table 2.55), and enlistees with AFQT scores in the lowest percentile group, 11 - 29 (Table 2.56).

**TABLE 2.52 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2006–2011: BY GENDER**

Gender	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
Male	797,201	26,745	23,442	2.9	1.00	-
Female*	155,844	7,149	6,129	3.9	1.34	(1.30, 1.37)

*Hospitalizations for pregnancy/childbirth are included.

**TABLE 2.53 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2006-2011: BY AGE**

Accession Age group	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
17 – 20	617,381	21,440	18,809	3.1	1.00	-
21 – 25	259,995	9,002	7,817	3.0	0.99	(0.96, 1.01)
26 – 30	51,957	2,107	1,818	3.5	1.15	(1.10, 1.20)
> 30	19,246	1,182	985	5.1	1.68	(1.58, 1.79)

**TABLE 2.54 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2006-2011: BY RACE**

Race	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
White	732,138	27,253	23,738	3.2	1.00	-
Black	140,460	4,507	3,985	2.8	0.88	(0.85, 0.90)
Other	79,635	2,109	1,825	2.3	0.71	(0.67, 0.74)

**TABLE 2.55 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2006-2011: BY EDUCATION LEVEL**

Education level	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
Below HS graduate [†]	3,551	191	159	4.5	1.00	-
HS diploma	832,251	29,451	25,712	3.1	0.69	(0.59, 0.80)
Some college	75,501	3,085	2,671	3.5	0.79	(0.68, 0.92)
Bachelor's or higher	41,639	1,162	1,025	2.5	0.55	(0.47, 0.65)

[†] Encompasses the following three cases: 1) one who is pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc.; 2) one who is not attending high school and who is neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school but is not yet a senior.

**TABLE 2.56 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2006 – 2011: BY AFQT SCORE**

AFQT score	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
93 – 99	62,496	1,898	1,685	2.7	1.00	-
65 – 92	364,197	12,277	10,737	3.0	1.09	(1.04, 1.15)
50 – 64	249,599	9,077	7,895	3.2	1.17	(1.11, 1.24)
30 – 49	258,834	10,020	8,721	3.4	1.25	(1.19, 1.32)
11 – 29	10,645	557	475	4.5	1.66	(1.50, 1.83)
≤ 10 [†]	52	4	4	7.7	-	-
Missing	7,222	61	54	0.8	-	-

[†] Individuals scoring in the 10th percentile or lower are prohibited from applying.

Table 2.57 shows hospital admissions within one year of accession for Active Duty enlisted personnel by medical disqualification status (see Part III, Data Sources). The risk of hospitalization is significantly higher among the two disqualified groups compared to the fully qualified group. Enlistees with temporary disqualifications have the highest risk of hospitalization.

**TABLE 2.57 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2006 – 2011: BY MEDICAL DISQUALIFICATION STATUS**

Medical status	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
Fully Qualified	816,749	27,661	24,237	3.0	1.00	-
Temporary DQ	56,741	2,799	2,360	4.2	1.40	(1.34, 1.46)
Permanent DQ	79,555	3,434	2,974	3.7	1.26	(1.21, 1.31)

Table 2.58 shows the most common hospital diagnoses within one year and two years of accession. During the first year of service, neurotic and personality disorders are the most frequent medical conditions leading to a hospitalization. Pneumonia and influenza are the second leading diagnosis category, followed by infections of the skin and subcutaneous tissue, other psychoses, and fracture. Admissions for these conditions are generally lower in the second year of service. The reduced number of hospitalizations for neurotic and personality disorders and other psychoses in the second year may reflect the fact that most enlistees who experience a serious episode related to mental illness early in training are discharged soon after (2000 AMSARA Annual Report, p.23-33). The lower number of hospitalizations for pneumonia and influenza may be related to a reduction in group-living situations after basic training. Other conditions occur more frequently in the second year of service. Admissions for complications of pregnancy increase dramatically in the second year, which is not surprising given that pregnancy is a temporary medical disqualification at MEPS and a cause for discharge during Basic Combat Training (BCT). The number of admissions for injuries also increases after the first year of service, which may be deployment-related.

TABLE 2.58 HOSPITAL ADMISSIONS AND PERSONS HOSPITALIZED WITHIN ONE AND TWO YEARS OF SERVICE FOR ACTIVE DUTY ENLISTED PERSONNEL ACCESSED IN 2006-2011: BY MEDICAL CATEGORY

Medical Category	Within one year of accession		Within two years of accession	
	Hospital admissions	Persons hospitalized	Hospital admissions	Persons hospitalized
Neurotic disorders, personality disorders, and other nonpsychotic mental disorders	6,599	5,669	10,070	8,173
Pneumonia and influenza	3,227	3,029	3,422	3,185
Infections of skin and subcutaneous tissue	2,650	2,512	3,376	3,136
Other Psychoses	1,972	1,542	3,460	2,382
Fracture	1,868	1,668	3,917	2,998
Nonspecific symptoms	1,718	1,460	2,648	2,136
Injuries	1,260	1,100	3,358	2,498
Appendicitis	975	942	1,744	1,658
Alcohol and drug dependence	835	680	1,813	1,370
Rheumatism, excluding the back	769	708	1,077	953
Poisoning and toxic effects	725	611	1,329	1,042
Acute respiratory infections	713	664	834	759
Complications of pregnancy, childbirth, and the puerperium	628	541	8,916	7,692
Hernia of abdominal cavity	595	571	774	728
Other and unspecified effects of external causes	583	560	756	699
Osteopathies, chondropathies, and acquired musculoskeletal deformities	498	458	741	591
Diseases of the oral cavity, salivary glands, and jaws	443	423	649	596
Other diseases of the upper respiratory tract	428	388	686	604
Arthropathies and related disorders	408	353	948	791
Complications of surgical and medical care, not elsewhere classified	396	220	883	439
Other diseases of digestive system	396	334	718	567
Other diseases of urinary system	336	289	650	522
Dorsopathies	145	121	354	287
Other	5,360	4,429	8,847	6,822
Total	33,527	29,272	61,970	50,628

Attrition

Attrition is one of the key outcomes of interest to AMSARA. This section provides a description of attrition among first-time Active Duty enlisted accessions into the Army, Navy, Marines, and Air Force from FY 2006 to FY 2011. Figures 2.1 through 2.9 display the cumulative probability of service member attrition at 90, 180, 365, and 730 days following accession onto Active Duty by service, year of accession, gender, race, age at accession, education, AFQT percentile score at accession, record of medical conditions at accession, record of medical waiver, and medical disqualification status. Censoring may result from a lack of full follow-up or from certain DMDC transactions that result in the generation of a loss date but are not considered adverse events. The most common cause of non-attrition loss was expiration of term of service (1001), followed by disability with severance pay (1011) and other early releases (1008). Loss records generated for these events, noted in Table 2.59, were not counted among the attritions reported in the following figures. Totals may vary from figure to figure due to missing variable values.

TABLE 2.59 LOSS CATEGORIES EXCLUDED FROM ACTIVE DUTY ATTRITION BY ISC CODE

ISC Code	Description
1000	Unknown or Invalid
1001	Expiration of Term of Service
1003	Early Release - To Attend School
1004	Early Release – Police Duty
1005	Early Release - In the National Interest
1006	Early Release – Seasonal Employment
1007	Early Release – To Teach
1008	Early Release - Other (incl RIF/VSI/SSB)
1011	Disability - Severance Pay
1012	Permanent Disability - Retired
1013	Temporary Disability - Retired
1014	Disability - Non EPTS - No Severance Pay
1015	Disability - Title 10 Retirement
1030	Death, Battle Casualty
1031	Death, Non-Battle - Disease
1032	Death, Non-battle - Other
1033	Death, NS
1040	Officer Commissioning Program
1041	Warrant Officer Program
1042	Military Service Academy
1050	Retirement, 20-30 yrs of Service
1051	Retirement, Over 30 yrs of Service
1052	Retirement, Other Categories
1100	Immediate Reenlistment

ISC, Interservice Separation Code; RIF, Reduction in force; VSI, voluntary separation initiative; SSB, special separation benefit; MIA, missing in action; POW, prisoner of war

Figures 2.1 to 2.8 show the rate of attrition among first time enlisted active duty accessions that accessed between 2006 and 2011. Attrition is shown by service, year of accession, and several demographic characteristics. In the first 180 days of service, attrition is highest in the Navy and Marine Corps; after two years attrition is highest in the Army (Figure 2.1). Overall, the attrition rate appears to decrease slightly by year of accession with 2007 and 2008 having the highest rates at each follow-up interval (Figure 2.2). Females have consistently higher rates of attrition when compared to males (Figure 2.3) and attrition is more common in whites than other races in the first two years of service (Figure 2.4). Cumulative attrition was similar across all age categories (Figure 2.5). Lower education levels and AFQT scores had higher levels of attrition at all time points (Figures 2.6 & 2.7). At all points of follow up, the attrition rate was lowest among fully qualified individuals (Figure 2.8).

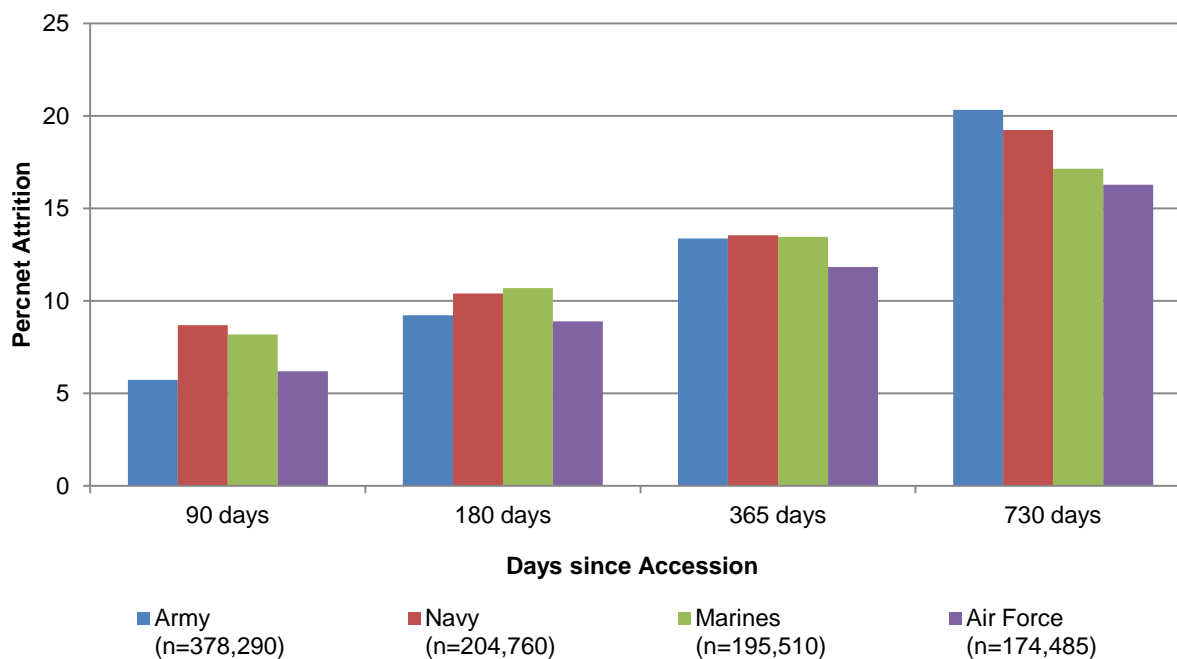


FIGURE 2.1 ATTRITION AMONG FIRST-TIME ACTIVE DUTY ACCESSIONS IN 2006-2011 AT 90, 180, 365, AND 730 DAYS FOLLOWING ACCESSION

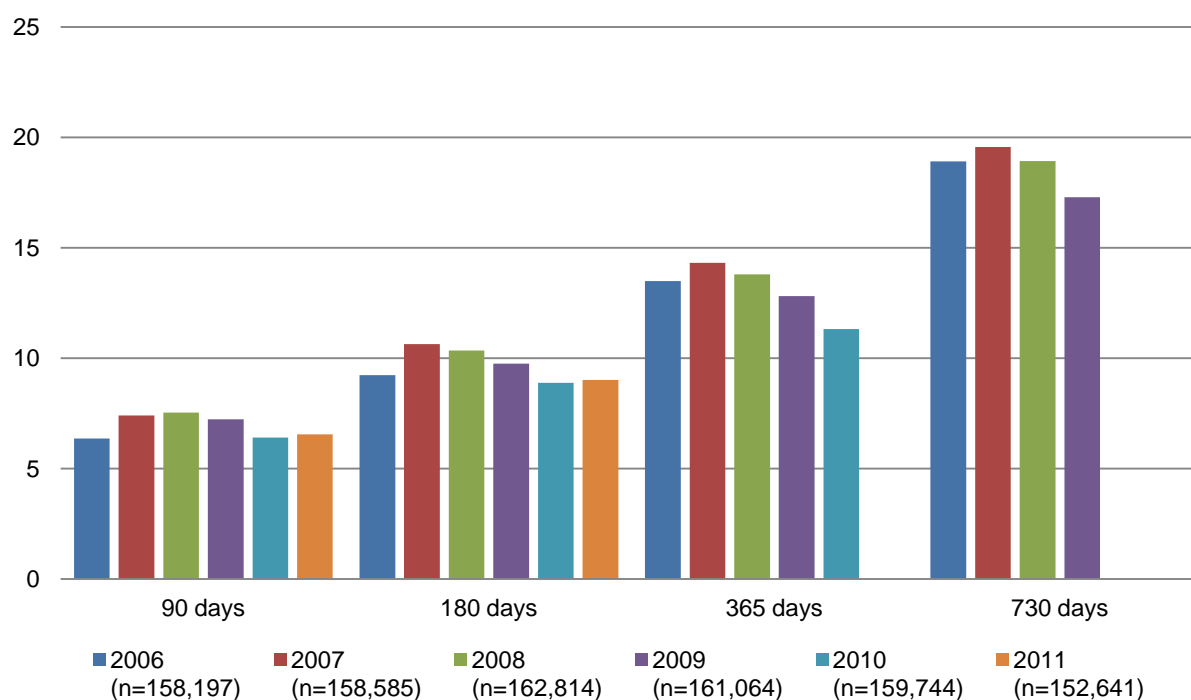


FIGURE 2.2 ATTRITION AMONG FIRST-TIME ACTIVE DUTY ACCESSIONS IN 2006-2011 AT 90, 180, 365, 730 DAYS FOLLOWING ACCESSION BY YEAR OF ACCESSION

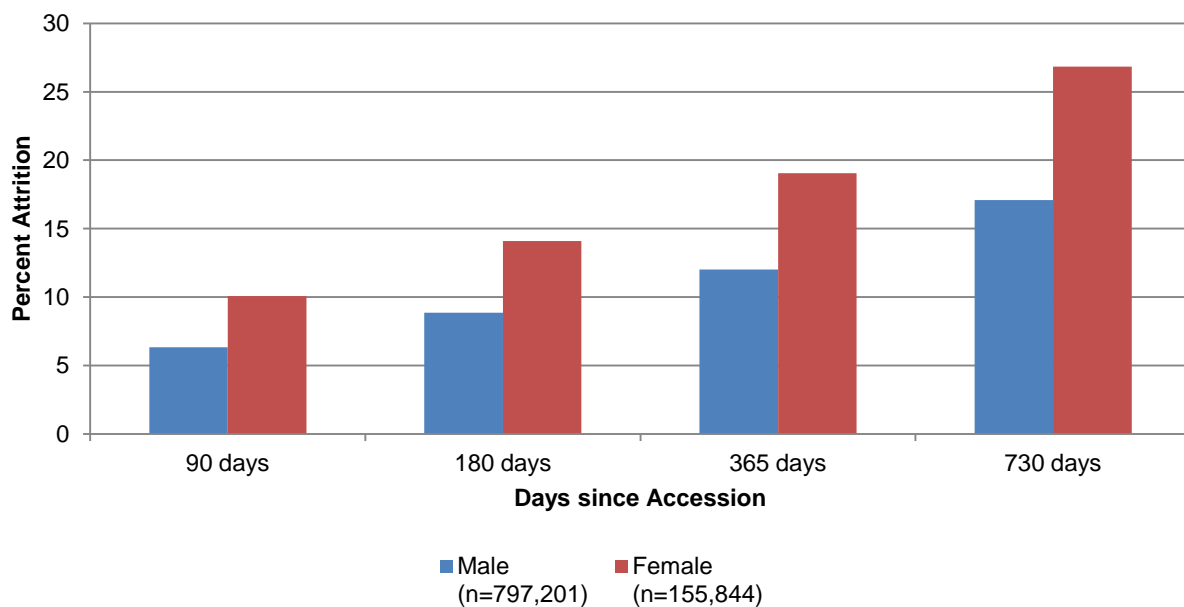


FIGURE 2.3 ATTRITION AMONG FIRST-TIME ACTIVE DUTY ACCESSIONS IN 2006-2011 AT 90, 180, 365, 730 DAYS FOLLOWING ACCESSION BY GENDER

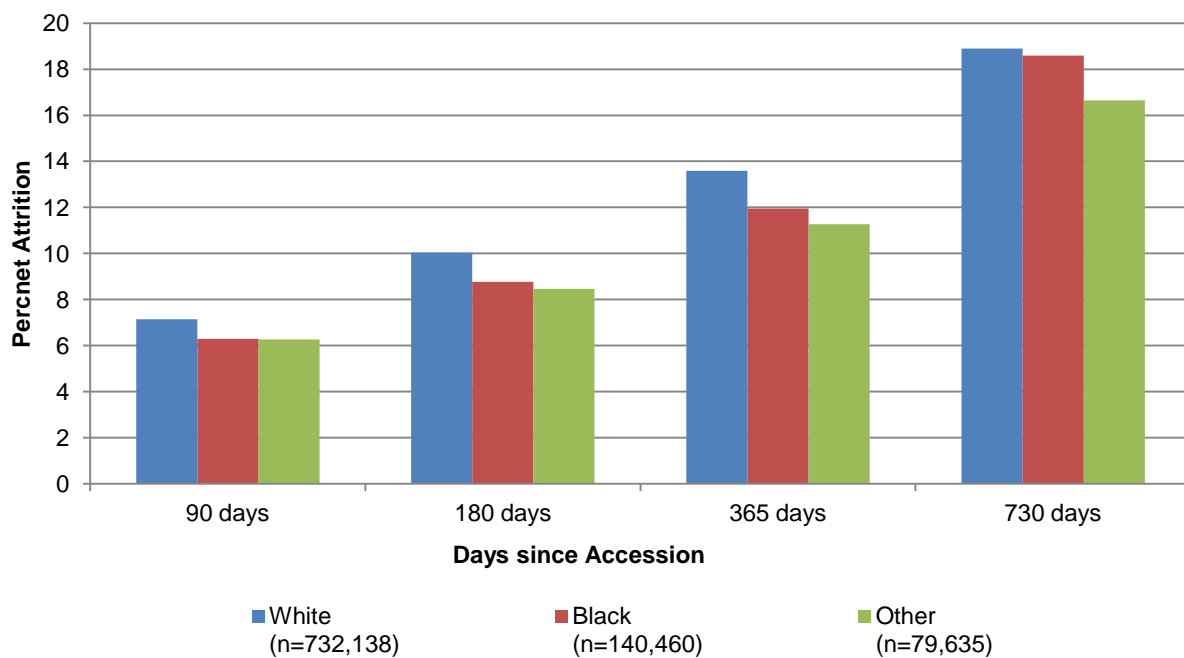


FIGURE 2.4 ATTRITION AMONG FIRST-TIME ACTIVE DUTY ACCESSIONS IN 2006-2011 AT 90, 180, 365, 730 DAYS FOLLOWING ACCESSION BY RACE

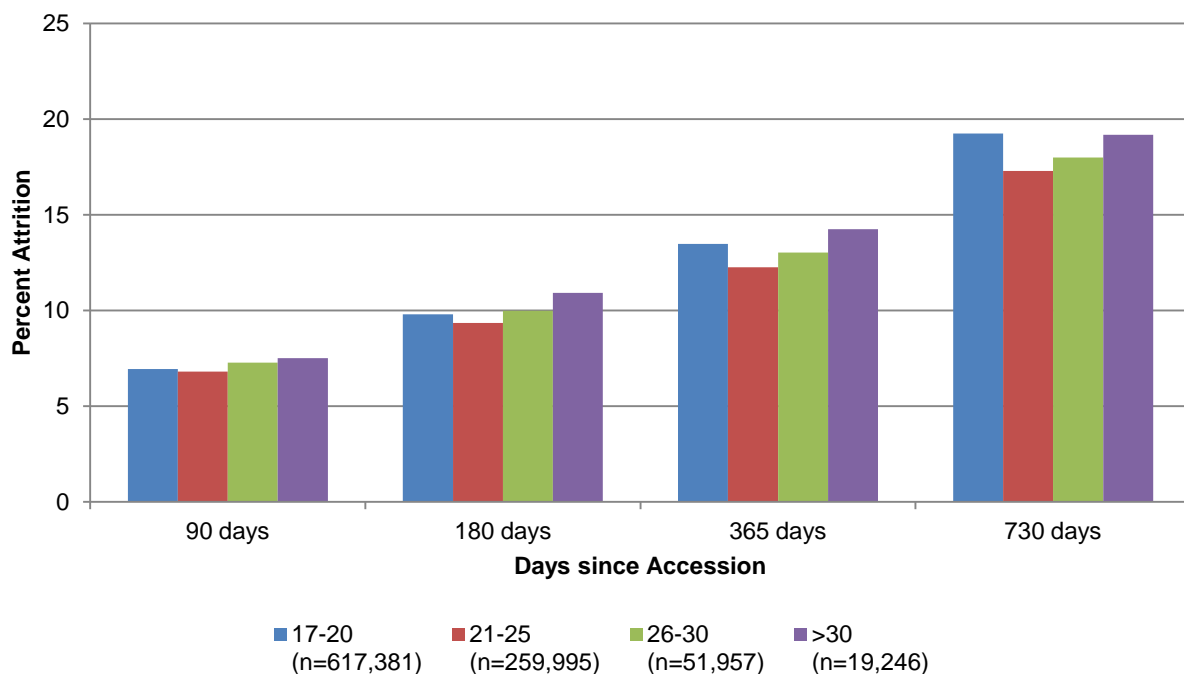


FIGURE 2.5 ATTRITION AMONG FIRST-TIME ACTIVE DUTY ACCESSIONS IN 2006-2011 AT 90, 180, 365, 730 DAYS FOLLOWING ACCESSION BY AGE AT ACCESSION

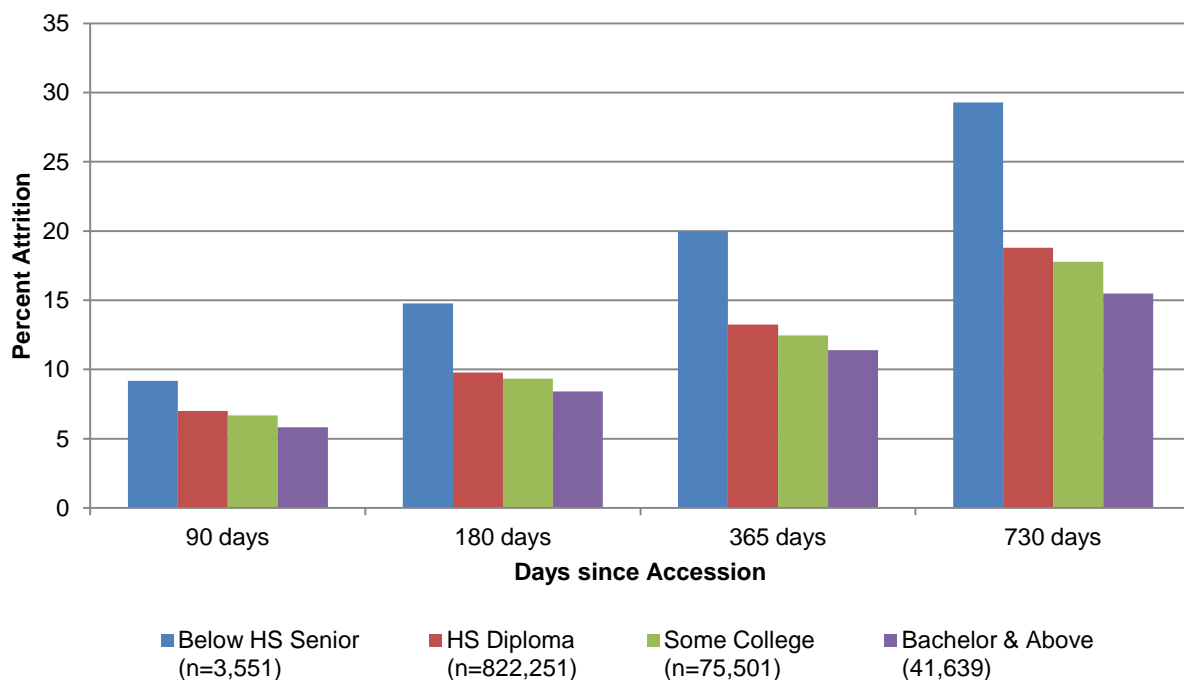


FIGURE 2.6 ATTRITION AMONG FIRST-TIME ACTIVE DUTY ACCESSIONS IN 2006-2011 AT 90, 180, 365, 730 DAYS FOLLOWING ACCESSION BY EDUCATION LEVEL AT ACCESSION

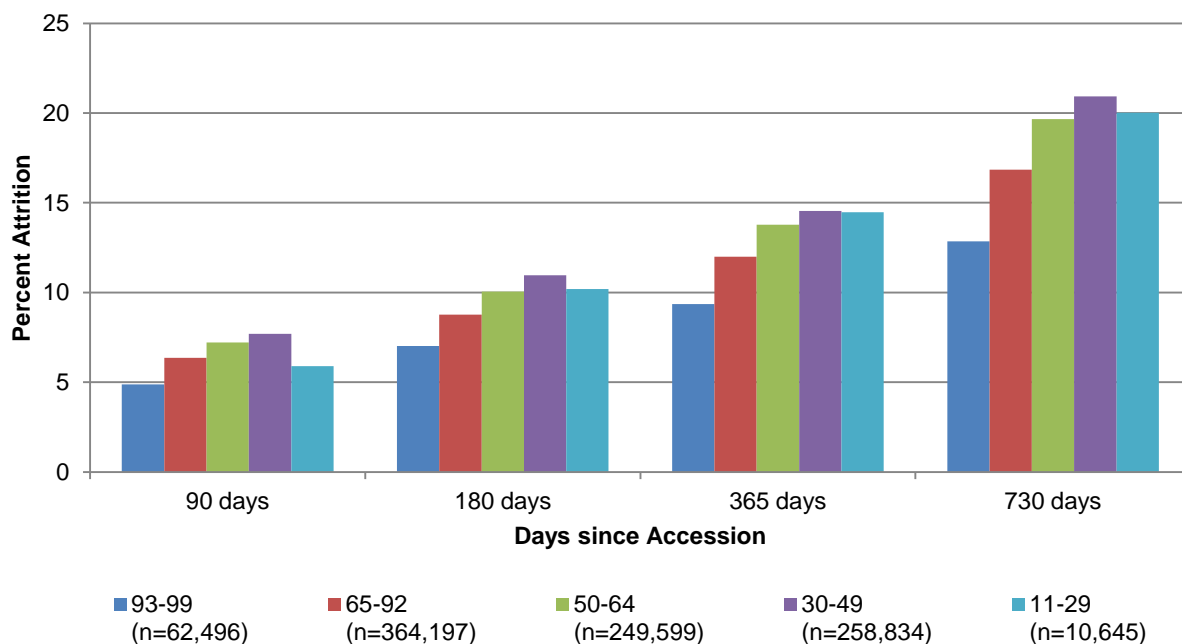


FIGURE 2.7 ATTRITION AMONG FIRST-TIME ACTIVE DUTY ACCESSIONS IN 2006-2011 AT 90, 180, 365, 730 DAYS FOLLOWING ACCESSION BY AFQT SCORE

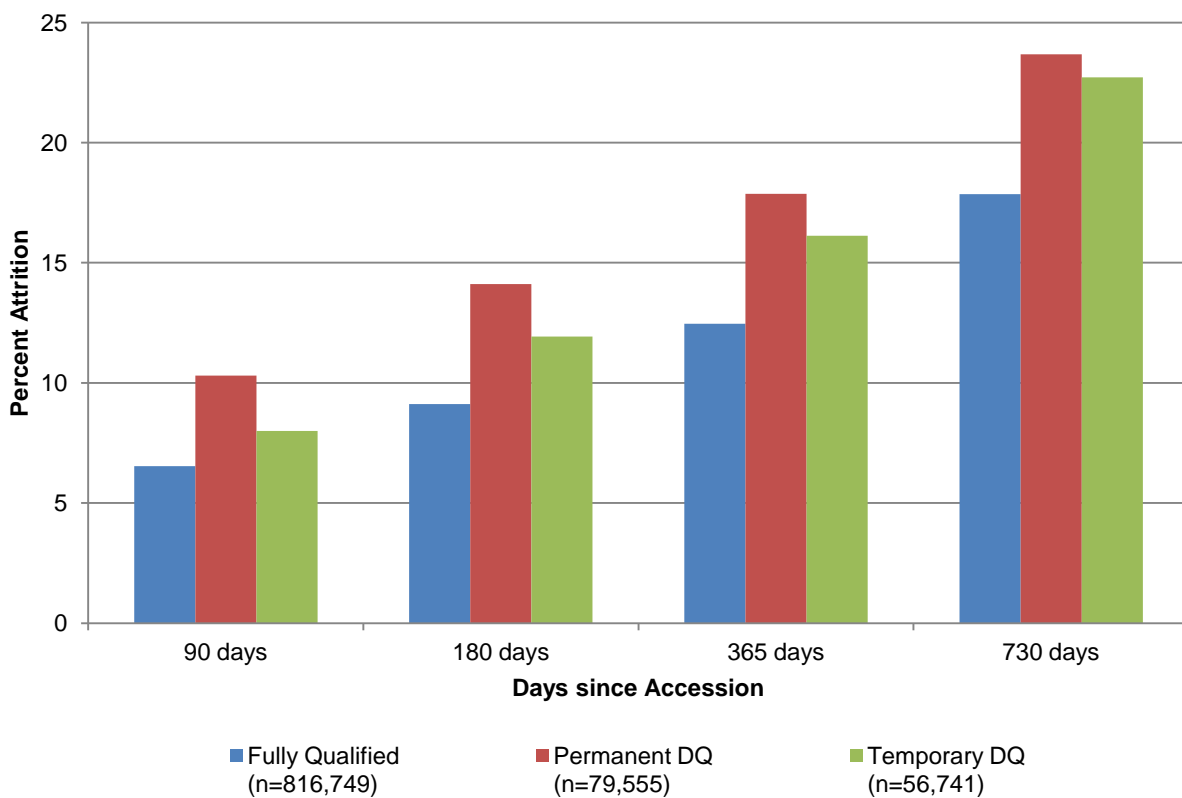


FIGURE 2.8 ATTRITION AMONG FIRST-TIME ACTIVE DUTY ACCESSIONS IN 2006-2011 AT 90, 180, 365, 730 DAYS FOLLOWING ACCESSION BY DISQUALIFICATION STATUS

EPTS Discharges

Discharges for medical conditions Existing Prior to Service (EPTS) are of vital interest to AMSARA. A discharge can be classified as EPTS if the condition was verified to have existed before the recruit began service and if the complications leading to discharge arose no more than 180 days after the recruit began duty. EPTS data reporting has varied by site and over time – see Data Sources section for details (Table 3.1).

Part I summarizes the EPTS records provided to AMSARA, regardless of whether a corresponding accession record is available. EPTS records for active duty, reserves, and National Guard members are included. Part II only summarizes records for which a corresponding active duty accession record is available. Due to the significant differences in the population between active duty and reserves, only active duty discharges are included.

Part I: EPTS discharges irrespective of accession record

The number of EPTS discharge records by service branch, component, and year of discharge are shown for the period between 2007 and 2011 in Table 2.60. Numbers for each service and component often differ considerably from year to year. For example, the average number of records received for Navy reserves in 2010 is nearly half the average number received in 2007 and 2008. Fluctuations in the numbers of reported EPTS discharges are also apparent for active duty Marine Corps and Air Force. For example, Air Force reported EPTS discharges ranged from 568 in 2009 to 1,115 in 2007. Marine Corps EPTS discharge counts vary from 663 in 2010 to 1,201 in 2007 and decreases consistently from 2007-2010.

TABLE 2.60 EPTS DISCHARGES IN 2007 – 2011 BY SERVICE, COMPONENT*, AND YEAR

Service	Component	2007	2008	2009	2010	2011 [†]	Total
Army	Active Duty	1,492	1,965	1,424	1,529	1,031	7,441
	National Guard	503	711	657	666	486	3,023
	Reserves	316	357	262	207	123	1,265
Navy	Active Duty	1,717	1,693	1,415	1,439	688	6,952
	Reserves	167	187	112	83	53	602
Marines Corps	Active Duty	1,201	1,166	707	663	353	4,090
	Reserves	158	119	90	104	57	528
Air Force	Active Duty	1,115	1,040	568	595	321	3,639
	National Guard	5	6	6	5	1	23
	Reserves	70	77	61	78	42	328
Total		6,744	7,321	5,302	5,369	3,155	27,891

* Records are excluded if component is missing.

[†] May be incomplete; includes records received by AMSARA from US MEPCOM as of 30 April 2012.

Table 2.61 shows EPTS discharges between 2007 and 2011 for each branch of service by medical categories defined by USMEPCOM. The results are sorted according to the numbers of discharges from the Army, the largest service with the most reported EPTS discharges. Psychiatric discharges were the most common cause of EPTS discharges in the Army, accounting for 29.1% of all EPTS discharges, and in the Marine Corps, accounting for 43.9% of all EPTS discharges. Psychiatric discharges were the second most common cause of EPTS discharge in the Navy, accounting for 12.1% of discharges, with other orthopedic conditions being slightly more common at 15.4% of discharges. However, psychiatric EPTS discharges accounted for less than 1% of all EPTS discharges from the Air Force. The leading cause of EPTS discharge in the Air Force was asthma, accounting for 17.1% of discharges; asthma is also the second most common cause of discharge from the Marine Corps (10.5%). As a group, orthopedic conditions, including knee, back, feet, and other, account for 34.2% of discharges from the Army. All orthopedic conditions were also leading causes of EPTS discharge in the Navy (36.5%), Marine Corps (16.3%), and Air Force (47.6%). The observed differences in EPTS discharge category frequencies may be due in part to differences in how each service categorizes and reports EPTS discharges, particularly discharges for psychiatric conditions (Army and Air Force). Accordingly, differences across services may reflect procedural differences more than true EPTS rates, and any comparisons across services should be made cautiously.

TABLE 2.61 EPTS DISCHARGES IN 2007–2011 BY CATEGORY

Condition	Army		Navy		Marine Corps		Air Force	
	Count	%	Count	%	Count	%	Count	%
Psychiatric - other	3,418	29.1	917	12.1	2,043	43.9	23	0.6
Ortho - other	1,433	12.2	1,165	15.4	325	7.0	433	10.9
Ortho - back	1,083	9.2	630	8.3	202	4.3	322	8.1
Ortho - knee	956	8.2	706	9.3	172	3.7	552	13.8
Asthma	921	7.9	785	10.4	488	10.5	684	17.1
Other - general	743	6.3	588	7.8	423	9.1	274	6.9
Ortho - feet	538	4.6	265	3.5	59	1.3	591	14.8
G-U (Incl. pregnancy)	473	4.0	409	5.4	162	3.5	124	3.1
Neurology - other	325	2.8	456	6.0	204	4.4	399	10.0
Abdomen and viscera	299	2.5	275	3.6	100	2.2	148	3.7
Cardiovascular - other	292	2.5	100	1.3	39	0.8	78	2.0
Seizure disorder	251	2.1	93	1.2	43	0.9	20	0.5
Eyes - other	251	2.1	388	5.1	105	2.3	70	1.8
Chest & lung - other	216	1.8	323	4.3	47	1.0	74	1.9
Skin & lymphatics	131	1.1	227	3.0	61	1.3	106	2.7
Ears - hearing	108	0.9	79	1.0	26	0.6	5	0.1
Cardiovascular – hypertension	84	0.7	45	0.6	32	0.7	14	0.4
Ears - other	40	0.3	53	0.7	36	0.8	5	0.1
Eyes - refraction	33	0.3	49	0.6	9	0.2	15	0.4
Psych Schizophrenia	22	0.2	2	0.0	10	0.2	1	0.0
Other/Missing	112	1.0	36	0.5	63	1.4	52	1.3
Total	11,729		7,584		4,649		3,990	

Table 2.62 shows the 20 most common conditions leading to EPTS discharge from the Army for active duty enlistees in 2011, and for comparison gives the prevalence of EPTS discharges due to these conditions in 2007-2010. In 2011, asthma, depressive disorders, lower leg pain, deformities, or disease and anxiety disorder were the leading causes of EPTS discharges. The observed prevalence of EPTS discharges for the leading conditions in 2011 was generally similar to the prevalence of conditions observed in the period from 2007 to 2010. However, discharges for asthma increased in prevalence from 7.6% in 2007 to 2010 to 9.0% in 2011, and discharges for anxiety disorder increased from 2.5% of all discharges to 4.6%. EPTS discharges for depressive disorders decreased slightly in prevalence in 2011, to 8.1% of all discharges from 8.4% in 2007 to 2010.

TABLE 2.62 LEADING 20 PRIMARY EPTS DISCHARGE CONDITIONS FOR ACTIVE DUTY ENLISTEES IN 2007-2010 VS. 2011: ARMY

Primary EPTS condition	2007-2010		2011	
	n	%	n	%
Asthma	488	7.6	93	9.0
Depressive disorder, not elsewhere classified	539	8.4	83	8.1
Lower leg pain, deformities, or disease	429	6.7	56	5.4
Anxiety disorder	160	2.5	47	4.6
Back pain	319	5.0	44	4.3
Mood disorder other and unspecified	131	2.0	42	4.1
Major depression, recurrent	134	2.1	34	3.3
Pes planus, acquired and congenital	99	1.5	28	2.7
Ankle or foot pain, deformities or disease	196	3.1	27	2.6
Pregnancy	100	1.6	27	2.6
Epilepsy to include convulsive disorders	127	2.0	22	2.1
Anemia , unspecified	60	0.9	19	1.8
Deviation or curvature of spine	114	1.8	19	1.8
ADD/ADHD	144	2.2	18	1.7
Shoulder pain, disease, injury current	157	2.4	18	1.7
Shoulder instability	107	1.7	15	1.5
Keratoconus of any degree	49	0.8	14	1.4
Hearing deficiency	58	0.9	14	1.4
Depression, major single episode	61	1.0	13	1.3
Bipolar disorder, other and unspecified	150	2.3	13	1.3
All other EPTS discharge categories	2,788	43.5	385	37.3
Total for EPTS discharge categories	6,410		1,031	

Table 2.63 shows the 20 most common conditions leading to EPTS discharge from the Navy among active duty personnel in 2011, compared to the prevalence of the same conditions in 2007-2010. Asthma (16.3%) was the leading cause of EPTS discharge in 2011, followed by lower leg pain (11.3%), and chest pain (4.8%). The prevalence of EPTS discharge for knee limitation of motion due to disease and Headaches, recurrent were both higher in 2011 than in previous years.

TABLE 2.63 LEADING 20 PRIMARY EPTS DISCHARGE CONDITIONS FOR ACTIVE DUTY ENLISTEES IN 2007-2010 VS. 2011: NAVY

Primary EPTS condition	2007-2010		2011	
	n	%	n	%
Asthma	632	10.1	112	16.3
Lower leg pain, deformities, or disease	584	9.3	78	11.3
Chest pain	157	2.5	33	4.8
Knee limitation of motion due to disease	118	1.9	27	3.9
Headaches, recurrent	129	2.1	25	3.6
Back pain	300	4.8	23	3.3
Headaches, migraines	153	2.4	19	2.8
Keratoconus of any degree	135	2.2	19	2.8
Deviation or curvature of spine	143	2.3	17	2.5
Hearing deficiency	54	0.9	15	2.2
Shoulder instability	104	1.7	11	1.6
Ankle or foot pain, deformities or disease	157	2.5	11	1.6
Abdominal pain	48	0.8	11	1.6
Epilepsy to include convulsive disorders	64	1.0	10	1.5
Nephrocalcinosis	71	1.1	9	1.3
Hernia, including inguinal	31	0.5	8	1.2
Psoriasis current or history	39	0.6	7	1.0
Shoulder pain, disease, injury current	86	1.4	7	1.0
Osteoporosis current	20	0.3	7	1.0
Syncope or collapse	90	1.4	7	1.0
All other EPTS discharge categories	3,149	50.3	232	33.7
Total for EPTS discharge categories	6,264		688	

Table 2.64 shows the 20 most common conditions leading to EPTS discharge from the Marine Corps among active duty enlistees in 2011 and the corresponding prevalence for EPTS discharge due to these conditions in 2007-2010. Depressive disorders, asthma, and adjustment disorders were the top three reasons for EPTS discharge among Marines in 2011. The observed prevalence of EPTS discharges for the leading conditions in 2011 was generally similar to the prevalence of conditions observed in the period from 2007 to 2010. However, discharges for depressive disorder, not elsewhere classified decreased from 13.0% in 2007 to 2010 to 11.0 in 2011.

TABLE 2.64 LEADING 20 PRIMARY EPTS DISCHARGE CONDITIONS FOR ACTIVE DUTY ENLISTEES IN 2007-2010 VS. 2011: MARINE CORPS

Primary EPTS condition	2007-2010		2011	
	n	%	n	%
Depressive disorder, not elsewhere classified	485	13.0	39	11.0
Asthma	411	11.0	31	8.8
Adjustment disorders	195	5.2	21	5.9
ADD/ADHD	97	2.6	10	2.8
Suicide behavior, gesture or attempt	198	5.3	9	2.5
Headaches, migraines	42	1.1	8	2.3
Deviation or curvature of spine	30	0.8	8	2.3
Miscellaneous codes	24	0.6	8	2.3
Anemia , unspecified	14	0.4	7	2.0
Anxiety Disorder	159	4.3	7	2.0
Posttraumatic Stress Disorder	29	0.8	7	2.0
Allergic manifestations	103	2.8	7	2.0
Bipolar disorder, other and unspecified	98	2.6	6	1.7
Headaches, recurrent	56	1.5	6	1.7
Depression Major single episode	22	0.6	5	1.4
Otitis Media, current, history or chronic	10	0.3	5	1.4
Lower leg pain, deformities, or disease	76	2.0	5	1.4
Back pain	95	2.5	5	1.4
Gastritis, chronic or severe	2	0.1	4	1.1
Syncope or collapse	26	0.7	4	1.1
All other EPTS discharge categories	1,565	41.9	151	42.8
Total for EPTS discharge categories	3,737		353	

Table 2.65 shows the 20 most common conditions leading to EPTS discharge of active duty enlistees from the Air Force in 2011, compared to EPTS discharges in the same categories in 2007-2010. The primary causes for EPTS discharge in 2011 were lower leg pain, deformities, or disease; pes planus; back pain, asthma; and migraine headaches.

TABLE 2.65 LEADING 20 PRIMARY EPTS DISCHARGE CONDITIONS FOR ACTIVE DUTY ENLISTEES IN 2007-2010 VS. 2011: AIR FORCE

Primary EPTS condition	2007-2010		2011	
	n	%	n	%
Lower leg pain, deformities, or disease	398	12.0	45	14.0
Pes planus, acquired and congenital	331	10.0	29	9.0
Back pain	154	4.6	16	5.0
Headaches, migraines	237	7.1	15	4.7
Asthma	623	18.8	14	4.4
Chest pain	18	0.5	11	3.4
Eczema	25	0.8	7	2.2
Pes cavus current or history	18	0.5	7	2.2
Nephrocalcinosis	14	0.4	6	1.9
Shoulder pain, disease, injury current	45	1.4	6	1.9
Plantar fasciitis, current	56	1.7	6	1.9
Ankle or foot pain, deformities or disease	86	2.6	5	1.6
Nucleus pulposus herniation, current	10	0.3	5	1.6
Congenital anomalies of heart and great vessels	20	0.6	5	1.6
Irregular astigmatism (requiring contract lenses)	2	0.1	4	1.2
Varicocele left	12	0.4	4	1.2
Pilonidal cyst current	20	0.6	4	1.2
Shoulder instability	44	1.3	4	1.2
Osteochondritis of the tibial tuberosity	37	1.1	4	1.2
Anemia , unspecified	15	0.5	3	0.9
All other EPTS discharge categories	1,153	34.7	121	37.7
Total for EPTS discharge categories	3,318		321	

Part II: EPTS discharges with an accession record

EPTS discharges among enlistees who accessed during 2006-2011 are summarized in Tables 2.67 through 2.75. Note that all references to years refer to the year of accession rather than the year of discharge. Discharge numbers reflect only discharges occurring among individuals with an accession record in the specific year. As mentioned, an EPTS condition must be identified within the first 180 days of service; if the service member is hospitalized at 180 days of service, their EPTS discharge may not occur until after their hospital discharge.

Relative risks are used to compare the likelihood of EPTS discharge between demographic groups. The baseline group chosen for each comparison depends on the factor being considered. For factors with some inherent order (e.g., age group, which ranges from younger to older) it is the first or last group in that order, as appropriate. Otherwise, the baseline group is generally the largest group. All comparisons, particularly those by service branch, should be taken in light of EPTS data reporting fluctuations by service and over time (see “Data Sources” for details).

Table 2.66 shows EPTS discharges reported among individuals accessed into enlisted service during each year from 2007 through 2011. EPTS discharge data for 2011 are not complete due to delays in reporting; therefore the total discharges are less than expected. The number of EPTS discharges reported in 2007 through 2010 is decreasing as well as the percent of accessions receiving an EPTS discharge.

TABLE 2.66 EPTS DISCHARGES BY ACCESSION YEAR

Year of accession	Accessions	Discharges	% Discharged
2007	158,585	5,427	3.4
2008	162,814	5,102	3.1
2009	161,064	3,803	2.4
2010	159,744	3,847	2.4
2011 [†]	152,641	1,952	1.3
Total	794,848	20,131	

[†] May be incomplete; includes records received by AMSARA from US MEPCOM as of 30 April 2012.

Enlisted accessions between 2007 and 2011 ending in EPTS discharges are shown in Table 2.67 for each branch of service. The risk of discharge in each service was compared to the Army. The Marine Corps and Air Force had similar risks of EPTS discharge, which were significantly increased relative to Army. Risk of EPTS discharge among Navy was the highest in any service. The risk for EPTS discharge in the Navy was significantly elevated relative to the Army.

TABLE 2.67 ENLISTED ACCESSIONS IN 2007-2011 ENDING IN EPTS DISCHARGE: BY SERVICE

Service	Accessions	Discharged	% Discharged	Relative Risk	95% CI
Army	314,358	6,635	2.1	1.00	
Navy	172,015	6,341	3.7	1.75	(1.69, 1.81)
Marine Corps	164,675	3,761	2.3	1.08	(1.04, 1.13)
Air Force	143,800	3,394	2.4	1.12	(1.07, 1.16)

Table 2.68-Table 2.72 show the number EPTS discharges reported among the accessed population by demographic characteristics at accession. The risk of EPTS discharge is significantly higher among females relative to males. Relative to whites, the risk of EPTS discharges among all other racial groups was significantly lower. EPTS discharge risk is also significantly elevated in the oldest age group relative to the youngest age group. Enlistees entering onto active duty service with education beyond high school were at significantly decreased risk for EPTS discharge as compared to enlistees with a high school diploma. All of those scoring in the lowest percentile for AFQT had a significantly higher risk of EPTS discharge relative to the highest scoring group, with a general trend of lower risk corresponding with higher AFQT score.

TABLE 2.68 ENLISTED ACCESSIONS IN 2007-2011 ENDING IN EPTS DISCHARGE: GENDER

Gender	Accessions	Discharged	% Discharged	Relative Risk	95% CI
Male	665,785	14,597	2.2	1.00	-
Female	129,063	5,534	4.3	1.96	(1.90, 2.02)

TABLE 2.69 ENLISTED ACCESSIONS IN 2007-2011 ENDING IN EPTS DISCHARGE: RACE

Race [†]	Accessions	Discharged	% Discharged	Relative Risk	95% CI
White	606,382	15,588	2.6	1.00	-
Black	120,130	2,964	2.5	0.96	(0.92, 1.00)
Other	67,948	1,565	2.3	0.90	(0.85, 0.94)
Missing or declined	388	14	3.6	1.40	(0.84, 2.35)

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

TABLE 2.70 ENLISTED ACCESSIONS IN 2007-2011 ENDING IN EPTS DISCHARGE: AGE

Accession age group	Accessions	Discharged	% Discharged	Relative Risk	95% CI
17 – 20	508,715	13,130	2.6	1.00	-
21 – 25	220,530	5,308	2.4	0.93	(0.90, 0.96)
26 – 30	44,848	1,104	2.5	0.95	(0.90, 1.01)
< 30	17,094	511	3.0	1.16	(1.06, 1.26)

TABLE 2.71 ENLISTED ACCESSIONS IN 2007–2011 ENDING IN EPTS DISCHARGE: EDUCATION LEVEL

Education level	Accessions	Discharged	% Discharged	Relative Risk	95% CI
Below HS grad [†]	3,432	104	3.0	1.15	(0.95, 1.39)
HS Diploma	691,253	18,184	2.6	1.00	-
Some college	63,625	1,395	2.2	0.83	(0.79, 0.88)
Bachelor's and higher	36,168	448	1.2	0.47	(0.43, 0.51)
Missing	70	0	0.0		

[†] Encompasses the following three cases: 1) one who is pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc.; 2) one who is not attending high school and who is neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school but is not yet a senior.

TABLE 2.72 ENLISTED ACCESSIONS IN 2007–2011 ENDING IN EPTS DISCHARGE: AFQT SCORE

AFQT score	Accessions	Discharged	% Discharged	Relative Risk	95% CI
93 – 99	53,067	937	1.8	1.00	-
65 – 92	306,306	7,041	2.3	1.32	(1.23, 1.41)
50 – 64	209,109	5,647	2.7	1.55	(1.44, 1.66)
30 – 49	211,654	6,287	3.0	1.70	(1.59, 1.82)
11 – 29 [†]	8,139	227	2.8	1.60	(1.38, 1.84)
Missing	6,542	2	0.0	0.02	(0.00, 0.07)

[†] Individuals scoring in the 10th percentile or lower are prohibited from applying, although some exceptions have been noted.

Table 2.73 shows the enlisted accessions ending in EPTS discharge for the period between 2007 and 2011 by medical disqualification status. Both disqualified groups had a significantly higher risk of EPTS discharge relative to accessions who were fully medically qualified. For definitions of permanent and temporary disqualification see Part III, Data Sources.

TABLE 2.73 ENLISTED ACCESSIONS IN 2007–2011 ENDING IN EPTS DISCHARGE: MEDICAL DISQUALIFICATION

Medical status	Accessions	Discharged	% Discharged	Relative Risk	95% CI
Fully Qualified	682,920	15,715	2.3	1.00	-
Permanent DQ	66,824	3,036	4.5	1.97	(1.90, 2.05)
Temporary DQ	45,104	1,380	3.1	1.33	(1.26, 1.40)

Disability Discharge Evaluations with an Accession Record

Data on disability discharge evaluations are compiled separately for each service by its disability agency. The following tables will focus on disability evaluation within one year of accession; information on disability discharges irrespective of accession records is available in the Tri-service Disability Evaluation Systems Database Analysis and Research Annual Report.

All individuals evaluated for disability discharge in the first year of service are included in this section regardless of whether they were discharged or returned to duty as fit following evaluation. Medical diagnosis categories are taken from the Veterans Administration Schedule for Rating Disability. Current VASRD categorization is provided in the Data Sources Section.

Tables 2.74 through 2.82 present the numbers of medical disability evaluations within the first year of the first term of service among active duty enlisted Army, Air Force, Navy and Marine Corps personnel who accessed during 2006 to 2011. Relative risks are used to compare the likelihood of disability evaluation between demographic groups. The baseline group chosen for each comparison depends on the factor being considered. For factors with some inherent order (e.g., age group, which ranges from younger to older) it is the first or last group in that order, as appropriate. Otherwise, the baseline group is generally the largest group. Air Force disability evaluation data for 2006 were unavailable.

Table 2.74 presents the numbers of disability evaluations reported among individuals that accessed into the Army, Air Force, Navy, and Marine Corps enlisted service during each year from 2006 to 2011. Results are shown for each year of accession. The highest rate of disability evaluation in the first year of service (0.71%) occurred in 2007 and 2008 accessions. The number of disability evaluations for accessions in 2011 is underestimated due to incomplete follow up time.

TABLE 2.74 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2006–2011: BY YEAR

Year of accession	Total accessed	Evaluated within one year of accession	
		Count	%
2006	158,197	918	0.58
2007	158,585	1,126	0.71
2008	162,814	1,158	0.71
2009	161,064	844	0.52
2010	159,744	672	0.42
2011*	152,641	-	-

* The rate of disability evaluation was not estimated due to lack of follow up data on individuals accessed in 2011.

Table 2.75 shows the Active Duty enlisted accessions that underwent disability evaluation by service. Relative to Army enlistees, disability evaluation during the first year of service was significantly less likely among enlistees from all other services.

TABLE 2.75 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2006–2011: BY SERVICE

Service	Total accessions	Evaluated within one year of accession			
		Count	%	Relative risk	95% CI
Army	378,290	3,095	0.82	1.00	-
Air Force	174,485	530	0.30	0.37	(0.34, 0.41)
Marine Corps	195,510	897	0.46	0.56	(0.52, 0.60)
Navy	204,760	341	0.17	0.20	(0.18, 0.23)

The demographic characteristics of Active Duty enlisted accessions that underwent disability evaluation within one year of service are shown in Tables 2.76 through 2.81. Females were approximately two and a half times more likely to undergo disability evaluation than males. The risk of disability evaluation also increased significantly with increasing age. On comparison of the risk of disability evaluations across race groups, whites have a significantly higher risk of evaluated compared to all other racial groups. With respect to education level attained by accession, the highest risk of disability evaluation was observed for enlistees who had some level of college education prior to accession. The lowest risk of disability evaluation was for accessions with a high school diploma, or with a bachelor's degree or higher. Compared to the rate among individuals in the 93rd to 99th AFQT score percentile, the rate of disability evaluation was significantly higher for all other percentiles, excluding the 30th to 49th percentile.

TABLE 2.76 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2006–2011: BY GENDER

Gender	Total accessions	Evaluated within one year of accession			
		Count	%	Relative risk	95% CI
Male	797,201	3,314	0.42	1.00	-
Female	155,844	1,549	0.99	2.40	(2.25, 2.54)

TABLE 2.77 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2006–2011: BY AGE

Accession Age Group	Total accessions	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
17 – 20	617,381	2,675	0.43	1.00	-
21 – 25	259,995	1,452	0.56	1.29	(1.21, 1.37)
26 – 30	51,957	433	0.83	1.92	(1.74, 2.13)
> 30	19,246	280	1.45	3.36	(2.97, 3.79)

TABLE 2.78 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2006–2011: BY RACE

Race	Total accession	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
White	732,138	4,114	0.56	1.00	-
Black	140,460	457	0.33	0.58	(0.53, 0.64)
Other	79,635	295	0.37	0.65	(0.58, 0.73)

TABLE 2.79 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2006–2011: BY EDUCATION

Education level	Total accessions	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
Below HS graduate [†]	3,551	28	0.79	1.58	(1.09,2.29)
HS diploma	832,251	4,146	0.50	1.00	-
Some college	75,501	502	0.66	1.33	(1.22,1.46)
Bachelor's and higher	41,639	187	0.45	0.90	(0.78,1.04)

[†] Encompasses the following three cases: 1) one who is pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc.; 2) one who is not attending high school and who is neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school but is not yet a senior.

TABLE 2.80 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2006–2011: BY AFQT SCORE

AFQT score	Total accessions	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
93 – 99	62,496	279	0.45	1.00	-
65 – 92	364,197	1,890	0.52	1.16	(1.03,1.32)
50 – 64	249,599	1,348	0.54	1.21	(1.06,1.38)
30 – 49	258,834	1,268	0.49	1.10	(0.96,1.25)
11 – 29 [†]	10,645	77	0.72	1.62	(1.26,2.08)

[†] Individuals scoring in the 10th percentile or lower are prohibited from applying, although some exceptions have been noted.

Table 2.81 shows the numbers and likelihood of disability evaluations within the first year of service by medical disqualification status. The rate of disability evaluation for 2006-2011 accessions was higher in individuals with a disqualification as compared to fully qualified individuals.

TABLE 2.81 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2006–2011: BY MEDICAL STATUS

Medical status	Total accessions	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
Fully Qualified	816,749	3,736	0.46	1.00	-
Permanent DQ	79,555	657	0.83	1.81	(1.66,1.96)
Temporary DQ	56,741	470	0.83	1.81	(1.65,1.99)

Table 2.82 shows the leading diagnoses for disability evaluation from the Army within the first year of service comparing 2011 to 2006-2010. For both time periods, nearly 90% of Army enlistees evaluated for disability within the first year of service were diagnosed with conditions falling within only two musculoskeletal-related diagnostic categories: impairment, limitation and ankylosis of the joints, spine, skull, limbs and extremities followed by prosthetic implants and diseases of the musculoskeletal system.

TABLE 2.82 DIAGNOSIS CATEGORIES FOR DISABILITY EVALUATIONS AMONG FIRST-TIME ACTIVE DUTY PERSONNEL WITHIN THE FIRST YEAR OF SERVICE FOR 2006–2010 VS. 2011: ARMY

Diagnosis category	2006-2010		2011	
	Count	%	Count	%
Impairment, limitation and ankylosis of joints, spine, skull, limbs and extremities	1,386	46.3	57	57.6
Prosthetic implants and diseases of the musculoskeletal system	1,293	43.2	31	31.3
Diseases of the peripheral nerves	102	3.4	5	5.1
Diseases of the skin	14	0.5	3	3.0
Diseases of the endocrine system	49	1.6	2	2.0
Diseases of the respiratory system	13	0.4	2	2.0
Affective and nonpsychotic mental disorders	90	3.0	1	1.0
Diseases of the trachea and bronchi	54	1.8	1	1.0
Convulsive disorders	34	1.1	1	1.0
Schizophrenia and other psychotic disorders	32	1.1	1	1.0
Organic diseases of the central nervous system	29	1.0	1	1.0
Diseases of the digestive system	23	0.8	1	1.0
Diseases of the heart	23	0.8	1	1.0
Diseases of the genitourinary system	7	0.2	1	1.0
Infectious diseases, immune disorders, and nutritional deficiencies	5	0.2	1	1.0
Muscle injuries	77	2.6	0	0.0
Miscellaneous neurological disorders	33	1.1	0	0.0
Diseases of the arteries and veins	14	0.5	0	0.0
Diseases of the eye or loss of vision	14	0.5	0	0.0
Diseases of the cranial nerve	10	0.3	0	0.0
Organic psychotic disorders	9	0.3	0	0.0
The hemic and lymphatic system	7	0.2	0	0.0
Dental and oral conditions	3	0.1	0	0.0
Diseases of the nose and throat	2	0.1	0	0.0
Diseases of the ear	2	0.1	0	0.0
Amputation or anatomical loss of upper and lower extremities	1	0.0	0	0.0
Gynecological conditions and disorders of the breast	1	0.0	0	0.0
Total individuals*	2,996		99	

*Total individuals evaluated in 2011 within one year of accession may be underestimated due to lack of follow up time.

Table 2.83 shows the leading diagnoses for disability evaluation in the Navy within the first year of service. Data are shown in aggregate for 2006-2010 compared to 2011. The number of first-year Navy enlistees considered for disability discharge in 2011 (4) was extremely low, with only one Navy enlistee receiving an unfitting diagnosis. Disability evaluations for impairment, limitation and ankylosis of the joints, spine, skull, limbs and extremities (19.9%) was the largest single category among first-year Navy enlistees from 2006-2010, followed by prosthetic implants and diseases of the musculoskeletal system (13.9%) and affective and nonpsychotic mental disorders (8.3%).

TABLE 2.83 DIAGNOSIS CATEGORIES FOR DISABILITY EVALUATIONS AMONG FIRST-TIME ACTIVE DUTY PERSONNEL WITHIN THE FIRST YEAR OF SERVICE FOR 2006–2010 VS. 2011: NAVY

Diagnosis category	2006-2010		2011	
	Count	%	Count	%
Impairment, limitation and ankylosis of joints, spine, skull, limbs and extremities	67	19.9	1	25.0
Prosthetic implants and diseases of the musculoskeletal system	47	13.9	0	0.0
Affective and nonpsychotic mental disorders	28	8.3	0	0.0
Convulsive disorders	25	7.4	0	0.0
Organic diseases of the central nervous system	20	5.9	0	0.0
Diseases of the peripheral nerves	15	4.5	0	0.0
Schizophrenia and other psychotic disorders	14	4.2	0	0.0
Muscle injuries	8	2.4	0	0.0
Diseases of the digestive system	7	2.1	0	0.0
Miscellaneous neurological disorders	6	1.8	0	0.0
Diseases of the cranial nerve	5	1.5	0	0.0
Diseases of the heart	4	1.2	0	0.0
Diseases of the trachea and bronchi	4	1.2	0	0.0
Organic psychotic disorders	4	1.2	0	0.0
Diseases of the arteries and veins	3	0.9	0	0.0
Diseases of the endocrine system	3	0.9	0	0.0
Diseases of the eye or loss of vision	3	0.9	0	0.0
The hemic and lymphatic system	3	0.9	0	0.0
Amputation or anatomical loss of upper and lower extremities	2	0.6	0	0.0
Diseases of the genitourinary system	2	0.6	0	0.0
Diseases of the respiratory system	2	0.6	0	0.0
Infectious diseases, immune disorders, and nutritional deficiencies	2	0.6	0	0.0
Dental and oral conditions	1	0.3	0	0.0
Total individuals*	337		4	

*Total individuals evaluated in 2011 within one year of accession may be underestimated due to lack of follow up time.

Table 2.84 shows the leading diagnosis categories for disability evaluations in the Marines within the first year of service. Data are shown in aggregate for 2006-2010 compared to 2011. The number of first-year Marine enlistees considered for disability discharge in 2011 (13) was extremely low. The largest single category among first-year Marine enlistees was impairment, limitation and ankylosis of the joints, spine, skull, limbs and extremities for both 2011 (69.2%) and 2006-2010(45.2%). Diseases of the peripheral nerves was the second leading condition category for 2011 but the third leading category from 2006-2010. The second leading diagnosis category from 2006-2010 was prosthetic implants and diseases of the musculoskeletal system.

TABLE 2.84 DIAGNOSIS CATEGORIES FOR DISABILITY EVALUATIONS AMONG FIRST-TIME ACTIVE DUTY PERSONNEL WITHIN THE FIRST YEAR OF SERVICE FOR 2006–2010 VS. 2011: MARINE CORPS

Diagnosis category	2006-2010		2011	
	Count	%	Count	%
Impairment, limitation and ankylosis of joints, spine, skull, limbs and extremities	400	45.2	9	69.2
Diseases of the peripheral nerves	75	8.5	2	15.4
The hemic and lymphatic system	5	0.6	1	7.7
Diseases of the arteries and veins	3	0.3	1	7.7
Prosthetic implants and diseases of the musculoskeletal system	179	20.2	0	0.0
Affective and nonpsychotic mental disorders	27	3.1	0	0.0
Organic diseases of the central nervous system	27	3.1	0	0.0
Muscle injuries	22	2.5	0	0.0
Convulsive disorders	18	2.0	0	0.0
Schizophrenia and other psychotic disorders	17	1.9	0	0.0
Diseases of the digestive system	14	1.6	0	0.0
Diseases of the endocrine system	13	1.5	0	0.0
Diseases of the respiratory system	11	1.2	0	0.0
Diseases of the trachea and bronchi	11	1.2	0	0.0
Diseases of the genitourinary system	10	1.1	0	0.0
Diseases of the eye or loss of vision	7	0.8	0	0.0
Diseases of the skin	5	0.6	0	0.0
Diseases of the heart	4	0.5	0	0.0
Diseases of the cranial nerve	4	0.5	0	0.0
Organic psychotic disorders	4	0.5	0	0.0
Miscellaneous neurological disorders	3	0.3	0	0.0
Amputation or anatomical loss of upper and lower extremities	1	0.1	0	0.0
Diseases of the ear	1	0.1	0	0.0
Total individuals*	884		13	

*Total individuals evaluated in 2011 within one year of accession may be underestimated due to lack of follow up time.

Table 2.85 shows the leading diagnoses for disability evaluations in the Air Force within the first year of service. Data are shown in aggregate for 2007-2010 compared to 2011. Disability evaluation for diseases of the trachea and bronchi (72.4%) was the largest single diagnosis category for disability evaluations among first-year Air Force enlistees in 2011. From 2007-2010, disability evaluations for impairment, limitation and ankylosis of the joints, spine, skull, limbs and extremities (26.9%) was the largest single category among first-year Air Force enlistees, followed by diseases of the trachea and bronchi (17.0%).

TABLE 2.85 DIAGNOSIS CATEGORIES FOR DISABILITY EVALUATIONS AMONG FIRST-TIME ACTIVE DUTY PERSONNEL WITHIN THE FIRST YEAR OF SERVICE FOR 2007–2010 VS. 2011: AIR FORCE

Diagnosis category	2007-2010		2011	
	Count	%	Count	%
Diseases of the trachea and bronchi	85	17.0	21	72.4
Impairment, limitation and ankylosis of joints, spine, skull, limbs and extremities	135	26.9	2	6.9
Convulsive disorders	12	2.4	2	6.9
Affective and nonpsychotic mental disorders	48	9.6	1	3.4
Schizophrenia and other psychotic disorders	28	5.6	1	3.4
Diseases of the digestive system	21	4.2	1	3.4
Diseases of the heart	8	1.6	1	3.4
Prosthetic implants and diseases of the musculoskeletal system	57	11.4	0	0.0
Diseases of the peripheral nerves	17	3.4	0	0.0
Muscle injuries	14	2.8	0	0.0
Diseases of the endocrine system	13	2.6	0	0.0
Diseases of the arteries and veins	10	2.0	0	0.0
The hemic and lymphatic system	7	1.4	0	0.0
Diseases of the genitourinary system	5	1.0	0	0.0
Diseases of the eye or loss of vision	5	1.0	0	0.0
Organic diseases of the central nervous system	4	0.8	0	0.0
Infectious diseases, immune disorders, and nutritional deficiencies	3	0.6	0	0.0
Diseases of the respiratory system	3	0.6	0	0.0
Diseases of the skin	3	0.6	0	0.0
Gynecological conditions and disorders of the breast	2	0.4	0	0.0
Diseases of the cranial nerve	2	0.4	0	0.0
Diseases of the ear	2	0.4	0	0.0
Injury to the mouth, lips, tongue, and esophagus	2	0.4	0	0.0
Amputation or anatomical loss of upper and lower extremities	1	0.2	0	0.0
Dental and oral conditions	1	0.2	0	0.0
Organic psychotic disorders	1	0.2	0	0.0
Total individuals*	501		29	

*Total individuals evaluated in 2011 within one year of accession may be underestimated due to lack of follow up time.

3. DATA SOURCES

The Accession Medical Standards Analysis and Research Activity (AMSARA) requests and receives data from various sources, most of which are the primary collection agencies for the data they provide to AMSARA. Because data are seldom collected with the goal of epidemiologic study, AMSARA coordinates with the appropriate points of contact to ensure that the following major data types needed for AMSARA studies are in an appropriate form for epidemiologic work.

As mentioned under “Charter and Supporting Documents,” AMSARA maintains strict confidentiality of all data it receives. No external access to the data is allowed, and internal access is limited to a small number of primary analysts on an as-necessary basis. Research results are provided only at the aggregate level, with no possibility of individual identification.

MEPS

AMSARA receives data on all applicants who undergo an accession medical examination at any of the 65 Military Entrance Processing Stations (MEPS) sites. These data, provided by US Military Entrance Processing Command (USMEPCOM), North Chicago, IL, contain several hundred demographic, medical, and administrative elements on recruit applicants for each applicable branch (regular enlisted, reserve, National Guard) of each service (Air Force, Army, Coast Guard, Marines, and Navy). These data also include records on a relatively small number of officer recruit applicants and other non-applicants receiving periodic physical examinations.

The MEPS records provide extensive medical examination information, including date of examination, medical qualification status, medical disqualification codes (where relevant), medical conditions observed by or reported to physicians, and any waiver requirements. Medical conditions among applicants fall into two categories, temporary (condition that can be remediated, e.g., being overweight) or permanent (condition that remains with the applicant, e.g., history of asthma). For those applicants with a permanent disqualification due to a permanent condition, an accession medical waiver from a service-specific waiver authority is required for the applicant to be eligible for accession into the service (see “Waiver”). Results of some specific tests are also extracted from the MEPS records including those for hearing/vision, alcohol/drug use, and measurements of height, weight, and blood pressure.

Gain and Loss Files

The DMDC provides data on individuals entering military service (gain or accession) and on individuals exiting military service (loss). Gain and loss data, which are AMSARA’s primary sources of information about who is, or has been, in the military, include when an individual began duty and when or if an individual exited the military. From this information the length of service can be determined for any individual entering and leaving during the periods studied.

Gain data include approximately 50 variables. Of these, AMSARA has identified 25 of primary interest: personal identifiers (e.g., name and SSN) for linking with other data; demographics such as age, education, and Armed Forces Qualification Test (AFQT) score at the time of accession; and service information including date of entry, Unit Identification Code (UIC) of

initially assigned unit, initially assigned Military Occupation Specialty code (MOS), and Initial Entry Training (IET) site. These data are combined with MEPS data to determine accession percentages among applicants by demographic and other variables. Also, as mentioned under “MEPS,” these linked data are used in epidemiologic investigations related to the military’s accession medical standards.

Loss data also include approximately 50 variables, many of which are the same as those found in the gain file, although they reflect the individual’s status at the time of loss rather than at the time of gain. The variables of primary interest to AMSARA are personal identifiers for linking with other data, the loss date for computing length of service, the UIC and MOS for grouping service members by occupation, and the Inter-service Separation Code (ISC) as a secondary source of the reason for leaving the military. These data serve as the primary source of information on all-cause attrition from the service and are linked with the MEPS and gain data for studies of attrition.

Accession Medical Waiver

AMSARA receives records on all recruits who were considered for an accession medical waiver, i.e., those who received a permanent medical disqualification at the MEPS (see “MEPS”) and sought a waiver for that disqualification. Each service is responsible for making waiver decisions about its applicants. Data on these waiver considerations are generated and provided to AMSARA by each service waiver authority. Although the specifics of these data vary by service, they generally contain identifiers (e.g., name and SSN) for linking with other data and information about the waiver consideration including the medical condition(s) for which an individual was seeking a waiver and the final decision of the waiver authority.

Air Force

Air Education and Training Command (Randolph Air Force Base, TX) transmits, upon request, data on all officer and enlisted accession medical waivers. These data include SSN, name, action (e.g., approved, disapproved, other), and date of waiver consideration. In addition, ICD-9 codes are used to define the medically disqualifying condition(s) for which the waiver is being considered.

Army

The US Army Recruiting Command (USAREC, Fort Knox, KY) has provided annual accession medical waiver data since January 1997. Each data record contains name, SSN, action (e.g., approved, disapproved, other), and date of waiver consideration. In addition, ICD-9 codes are used to define the medically disqualifying condition(s) for which the waiver is being considered.

Marine Corps

The US Navy Bureau of Medicine and Surgery (BUMED) in Washington, DC, provides, on request, accession and commissioning medical waiver data for enlisted personnel and officers, along with data from special programs such as Reserve Officers’ Training Corps (ROTC) and the Naval Academy. Data include name, SSN, date of waiver consideration, and recommended action (e.g., approved, disapproved, other). In addition, the subset of ICD-9 codes listed in DoD Instruction (DoDI) 6130.03 is used to indicate the medically disqualifying condition(s) for which the waiver is being considered.

Navy

The Office of the Commander, US Navy Recruiting Command (Millington, TN) provides accession medical waiver data on applicants for enlisted service in the Navy since May 2000. Medically disqualifying conditions reported within the Navy waiver data file are recorded using in-house codes indicating which section of the DoDI 6130.03 is the basis for disqualification and waiver.

Hospitalization

Data on hospitalizations are obtained from the Military Health Systems Data Repository annually. These data contain information on admissions of active duty officers and enlisted personnel to any military hospital; this includes individuals in the Reserve and Guard components who are activated or who have been activated within 6 months prior to admission. Information on each visit includes SSN for linking with other data, demographic characteristics (e.g., gender, age, and race), and details about the hospitalization. In particular, the medical diagnosis associated with the hospitalization is coded according to the ICD-9. Date of admission, date of disposition, number of sick days, number of bed days, and indicators of the medical outcome are also included.

EPTS Discharges

Discharges for EPTS medical conditions are of vital interest to AMSARA. A discharge for a medical condition can be classified as an EPTS discharge if the condition was verified to have existed before the recruit began service and if the complications leading to discharge arose no more than 180 days after the recruit began duty. USMEPCOM requests a copy of official paperwork on all EPTS discharges and records certain information about each. This information includes a general medical categorization (20 categories) of the reason(s) for discharge and a judgment on each discharge regarding why (i.e., concealment, waiver, or unawareness) the person was not rejected for service on the basis of the preexisting condition. Beginning in August 1996, this paperwork has been regularly forwarded by USMEPCOM to AMSARA for additional data extraction, including more specific coding of medical conditions leading to discharge.

The primary limitation the EPTS discharge data is completeness. Table 3.1 summarizes the numbers of records provided to AMSARA over 2007-2011. The Marine Corps training site in San Diego has not provided EPTS discharge records since 2006 and is not included in this table. Note that the numbers of records have been unstable over time for nearly all IET sites. While some variability in numbers of EPTS records over time is expected, underreporting is clearly a major source of the fluctuations.

TABLE 3.1 EPTS DISCHARGE DATA REPORTED TO USMEPCOM BY TRAINING SITE AND YEAR[†]

Training Site		Fiscal Year of EPTS Discharge					
		2007	2008	2009	2010	2011 [‡]	Total
Army	Fort Benning	356	861	967	520	457	3,161
	Fort Jackson	993	691	19	607	565	2,875
	Fort Knox	259	346	333	286	77	1,301
	Fort Leonard Wood	422	800	837	804	416	3,279
	Fort Sill	281	335	187	185	122	1,110
Navy	Great Lakes	1,892	1,885	1,531	1,530	746	7,584
Marine Corps	Parris Island	1,366	1,295	803	771	414	4,649
Air Force	Lackland AFB	1,190	1,123	634	678	363	3,988
Coast Guard	Cape May	260	316	188	165	149	1,078
Total		7,019	7,652	5,499	5,546	3,309	29,025

[†] Numbers may not sum to totals shown in Section 2 because information from specific training sites is incomplete and other requirements for records are different.

[‡] FY 2011 data are incomplete and represent only records received by AMSARA by 30 April 2012.

Disability Evaluations

Data on disability discharge considerations are compiled separately for each service at its disability agency. The US Army Physical Disability Agency has provided data on Army disability evaluations during 1995–2011 and continues to provide these data. The Air Force Personnel Center has provided data on the first evaluation for all individuals who received a final disposition of separation or retirement (i.e. fit dispositions, retained on the temporary disability retirement list not included) for the first time during the period of 1995–2010, but only provides data on all evaluations from the period of 2007–2011. Data from the Secretary of the Navy, Council of Review Boards, including all disability discharge considerations for the Navy and Marine Corps, are available from 2000 to 2011.

All disability agencies provide information on all disability cases considered, including personal identifiers (e.g., name and SSN), program (e.g., regular enlisted, academy, or officer), date of consideration, and disposition (e.g., permanent disability, separation with or without benefits, temporary disability, or return to duty as fit). For individuals receiving a disability discharge, medical condition codes and degree of disability (rating) are also included. The medical condition(s) involved in each case are described using the condition codes of the Veterans Administration Schedule for Rating Disabilities (VASRD). This set is less comprehensive than the ICD-9 codes. In some cases the disabling condition has no associated code, so the code most closely resembling the true condition is used. AMSARA therefore only uses broad categories of disability condition codes, defined in Table 3.2, rather than attempting to interpret specific codes.

TABLE 3.2 VASRD CODE GROUPINGS

VASRD code	Conditions encompassed	VASRD code	Conditions encompassed
5000 - 5099	Prosthetic Implants and diseases of the musculoskeletal system	7300 - 7399	Diseases of the digestive system
5100 - 5199	Amputation or anatomical loss of upper and lower extremities	7500 - 7599	Diseases of the genitourinary system
5200 - 5299	Impairment, limitation, ankylosis of joints, spine, skull, limbs, and extremities	7600 - 7699	Gynecological conditions and disorders of the breast
5300 - 5399	Muscle injuries	7700 - 7799	The hemic and lymphatic systems
6000 - 6099	Diseases of the Eye or loss of vision	7800 - 7899	Diseases of the skin
6200 - 6269	Diseases of the Ear	7900 - 7999	Diseases of the endocrine system
6270 - 6279	Diseases of other sense organs (smell and taste)	8000 - 8099	Organic Diseases of the Central Nervous System
6280 - 6299	Other and unspecified disorders of the sensory organs	8100 - 8199	Miscellaneous neurological disorders
6300 - 6399	Infectious diseases, immune disorders, and nutritional deficiencies	8200 - 8499	Diseases of the cranial nerves
6500 - 6599	Diseases of the nose and throat	8500 - 8799	Diseases of the peripheral nerves
6600 - 6699	Diseases of the trachea and bronchi	8900 - 8999	Convulsive disorders
6700 - 6799	Tuberculosis	9200 - 9299	Schizophrenia and other psychotic disorders
6800 - 6899	Diseases of the respiratory system	9300 - 9399	Organic psychotic disorders
7000 - 7099	Diseases of the heart	9400 - 9599	Affective and nonpsychotic mental disorders
7100 - 7199	Diseases of the arteries and veins	9900 - 9999	Dental and oral conditions
7200 - 7299	Injury to the mouth, lips, tongue, and esophagus		

Charter and Supporting Documents

HA Control #: NONE
Due Date: NONE

February 28, 1995

ASSISTANT SECRETARY OF DEFENSE (HEALTH AFFAIRS) EXECUTIVE SUMMARY/COVER BRIEF

MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE
(HEALTH AFFAIRS)

THROUGH: *Jm* Dr. Sue Bailey, DASD (CS)
FROM: Action Officer, Colonel Ed Miller
SUBJECT: Accession Medical Standards Analysis and Research
Activity (AMSARA)
PURPOSE: SIGNATURE--on request that the Assistant Surgeon
General of the Army (Research and Development)
establish an Accession Medical Standards Analysis
and Research Activity (AMSARA).

DISCUSSION:

The Accessions Medical Standards Working Group which met over the summer sponsored through MFIM funding completed a functional economic analysis of the medical accessions examination process. One of the critical recommendations made by the Group was to establish a research activity to provide the Medical Accessions Standards Council (also recommended) with an evidence-based analysis of DoD accessions medical standards. The memorandum tasks the Army with the responsibility of establishing the activity resourced under the Defense Health Program. This has already been staffed with the Assistant Surgeon General of the Army (Research and Development)

RECOMMENDATION:

Sign tasking memorandum to Army Surgeon General.

COORDINATION:

✓ Mr. Conte, PDUSD(P&R) _____
✓ Mr. Maddy, HB&P: See attached memo
✓ Mr. Richards, EO: _____
Dr. Martin, PDASD: _____

CHARTER AND SUPPORTING DOCUMENTS



HEALTH AFFAIRS

THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D. C. 20301-1200

DEC 08 1995

MEMORANDUM FOR SURGEON GENERAL OF THE ARMY

SUBJECT: Military Medical Standards Analysis and Evaluation Data Set

The personnel community has asked OASD/HA to develop a fact based accessions policy to minimize medical attrition, quantitate risk in medical waivers, and to defend accession decisions when challenged.

The offices of Clinical Services and Military Personnel Policy have worked closely with epidemiologists at Walter Reed Army Institute of Research on the concept of a Military Medical Standard Analysis and Evaluation Data Set (MMSABDS) to apply quantitative analysis to a longitudinal data base.

The Army Center for Health Promotion and Preventive Medicine (CHPPM) maintains a data base of personnel, hospitalization, deployment and separation information for all Services. I would like WRAIR, in coordination with CHPPM, to serve as consultants to the Accession Medical Standard Steering Committee, modify and maintain the data base, and coordinate field research to answer specific questions germane to accession policy.

Therefore, I request that, by the end of December 1995, a proposal be submitted through you from WRAIR, outlining the consultant role and modifications needed to the data base. This should include funding requirements.

Edward D. Martin /br
Stephen C. Joseph, M.D., M.P.H.

cc:
Commander WRAIR

DEPARTMENT OF DEFENSE
ACCESSION MEDICAL STANDARDS
STEERING COMMITTEE

CHARTER

I. ESTABLISHMENT, PURPOSE AND SCOPE

A. ESTABLISHMENT

The Under Secretary of Defense (Personnel and Readiness) establishes a Department of Defense Accession Medical Standards Steering Committee (hereafter referred to as the "Committee".) The Committee shall operate under the joint guidance of the Assistant Secretaries of Defense (Force Management Policy and Health Affairs [FMP & HA].)

B. PURPOSE

The Committee's main objective is to ensure the appropriate use of military members with regard to medical/physical characteristics, assuring a cost-efficient force of healthy members in military service capable of completing initial training and maintaining worldwide deployability. The primary purposes of the Committee are: (1) integrating the medical and personnel communities in providing policy guidance and establishing standards for accession medical/physical requirements, and (2) establishing accession medical standards and policy based on evidence-based information provided by analysis and research.

C. SCOPE OF ACTIVITY

1. The Committee's responsibility involves:

- a. Providing policy oversight and guidance to the accession medical/physical standards setting process.
 - b. Directing research and studies necessary to produce evidenced-based accession standards making the best use of resources.
 - c. Ensuring medical and personnel coordination when formulating accession policy changes.
 - d. Overseeing the common application of the accession medical standards as outlined in DoD Directive 6130.3, "Physical Standards for Appointment, Enlistment, and Induction."
-

e. Interfacing with other relevant Department of Defense and Department of Transportation organizations.

f. Recommending promulgation of new DoD directives as well as revisions to existing directives.

g. Recommending legislative proposals concerning accession medical/physical processing.

h. Reviewing, analyzing, formulating and implementing policy concerning the accession physical examination.

i. Issuing policy letters or memoranda providing interpretation of provisions of DoD directives.

j. Resolving conflicts of application of accession medical/physical standards and policies among the Military Services and other authorized agents.

k. Maintaining records and minutes of Committee meetings.

II. ORGANIZATION

A. The Committee will be co-chaired by the Deputy Assistant Secretary of Defense (Military Personnel Policy) and the Deputy Assistant Secretary of Defense (Clinical Services). This will facilitate tasking the Deputy Chiefs of Staff for Personnel and the Surgeons General to assign staffers to relevant working groups, and to ensure DCS/Personnel and Surgeon General personal involvement with the various issues. The Committee will convene semiannually, at a minimum, and at the discretion of the Chairpersons.

B. Committee members are appointed by the Under Secretary of Defense (Personnel and Readiness) and provide ongoing liaison with their respective organizations concerning matters of medical/physical accession policy.

C. The Committee shall be composed of representatives from the following:

Office of the Assistant Secretary of Defense (Force Management Policy)

Office of the Assistant Secretary of Defense (Health Affairs)

Office of the Assistant Secretary of Defense (Reserve Affairs)

Office of Service Surgeons General

Office of Service Deputy Chiefs of Staff for Personnel, and Chief of Personnel and Training, HQ U.S. Coast Guard.

D. Representatives from the Office of the Assistant Secretary of Defense (Force Management Policy) and the Office of the Assistant Secretary of Defense (Health Affairs) shall serve as executive secretaries for the Committee, and maintain a working group, composed of representatives from each of the offices mentioned above, to receive and review issues pertinent to accession policy.

E. The Commander, U.S. Military Entrance Processing Command, and the Director, DoD Medical Examination Review Board shall serve as advisors to the Committee.

F. The Committee may invite consultants (i.e., training, recruiting, epidemiology) at the discretion of the Chairpersons.

Approved: JAN 16 1996
Date

A handwritten signature in black ink, appearing to read 'EDWIN DORN', with a stylized flourish extending to the right.

EDWIN DORN

Frequently Used Acronyms

AFQT	Armed Forces Qualification Test
AIM	Assessment of Individual Motivation
AMSARA	Accession Medical Standards Analysis and Research Activity
AMSWG	Accession Medical Standards Working Group
ARMS	Assessment of Recruit Motivation and Strength
BUMED	Navy Bureau of Medicine and Surgery
DMDC	Defense Manpower Data Center
DoD	Department of Defense
DQ	Disqualified
EPTS	Existed Prior to Service
FY	Fiscal Year
ICD-9	<i>International Classification of Diseases</i> , 9 th Revision
ISC	Interservice Separation Code
MEPS	Military Entrance Processing Station
OMF	Objective Medical Finding
TAPAS	Tailored Adaptive Personality Assessment System
USAREC	US Army Recruiting Command
USMEDCOM	US Medical Command
USMEPCOM	US Military Entrance Processing Command
VASRD	Veterans Administration Schedule for Rating Disabilities
WRAIR	Walter Reed Army Institute of Research



Accession Medical Standards Analysis & Research Activity

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